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# AIR CONDITIONING AND REFRIGERATION

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## INSIDE DOPE

by GEORGE F. TAUBENECK

Stories of the Week  
New Clutch on Utopia  
Postwar Kitchen  
Decalogue of Private Enterprise

### Stories of the Week

Over the holidays we heard a number of anecdotes, from which we have culled six to pass on to you-all.

#### No. 1:

As a bow to returning G.I.'s, collegiate athletic boards shut their eyes and granted that nearly anyone was eligible to play football during the 1946 season. Thus it was that many starting elevens were studded with the names of unlikely scholars.

In a certain Ivy League college where mid-term examinations affect athletic eligibility, a professor of mathematics flunked his school's leading halfback in November—just before the three most important games of the season.

That put the team's coach in a desperate situation. Without the services of his ace passer, runner, and kicker, he knew that his entire offense would fall apart. So he visited this professor, with the flunkie in tow.

"You can't do this to me, or to our fair school," he wailed.

The math prof was unmoved.

"Friend coach," he replied, "this oaf simply doesn't belong in an institution of higher learning. And I'll prove it to you."

Turning to the dumb football player, he asked:

"How much are two and two?"

After deliberating for awhile, the athlete answered:

"Six."

"See what I mean?" smirked the professor.

"Why," responded the coach, "that wasn't so far off. He only missed it by one."

#### No. 2:

As all parents of pre-school-age children know too well, the eager-to-learn toddlers pick up, from what they hear, more vocabulary items than is good for them. One bright little boy of our acquaintance had a penchant for acquiring cuss-words.

After he had uttered his first "damn," he was warned that next time he mouthed that naughty word he'd have to leave home. Of course you know what happened: Because he had centered the spotlight of attention on himself with that naughty word, he repeated it 10 minutes later.

True to her word, his nurse bundled him up, set him out on the front doorstep, and locked the door. There he shivered, disconsolately, until a house-to-house salesman walked up and asked the little tyke:

"Is the Lady of the House here today?"

"How the hell should I know?" returned the quivering five-year-old.

"I don't live here any more."

#### No. 3:

A rowdy young resident of New York's "Hell's Kitchen" was beating up a member of a rival gang of juvenile delinquents. Several of the tough mug's cronies had gathered on the sidelines to witness the free-for-all and to shout invectives at the luckless victim.

After blacking the other boy's eyes, knocking out a few of his teeth, and throwing him in the gutter, the better fighter paused, at a loss to conjure up further punishment.

"Hey, Butch," screamed a lusty voice. "Breathe in his face so he'll catch yer hoopin' coiff!"

(Concluded on Page 6, Column 3)

## CIO Electrical Union to Seek Wage Increase

NEW YORK CITY—Demands for a "substantial wage increase" will be presented by the electrical union shortly to General Electric Co., Westinghouse Electric Corp., the electrical divisions of General Motors Corp., and the Sylvania Electric Corp., following ratification by local unions of a program mapped out by delegates of the United Electrical, Radio, and Machines Workers (CIO) meeting here last week.

No strikes are planned in connection with these new demands, asserted James J. Matles, director of the union, who explained that the union seeks the full recovery of an estimated loss in real wages of \$11.72 weekly since Jan. 1, 1945.

Present union strategy, he added, calls for discussions with the companies involved, at which time the union will present briefs claiming to justify an increase which works out to a little more than 29 cents an hour for the 225,000 production workers it represents.

In addition, they will seek agreements calling for the company to finance life insurance equal to a worker's annual income, an equal amount of accident and dismemberment insurance, disability benefits equal to two-thirds of a worker's average weekly income, surgical benefits up to \$150 yearly, and medical care up to \$75 for each illness.

Termination date of the G-E and Westinghouse contracts is April 1; Sylvania Electric, April 30. April 28 is the re-opening date for wage discussions for the two-year contract with General Motors.

## CC Ratings End for Vets, Small Business

WASHINGTON, D. C.—Special priorities assistance to small business men and war veterans was ended last week with the issuance of an amendment to Priorities Regulation 28 sharply limiting its scope by the Civilian Production Administration of the Offices of Temporary Controls.

CPA announced that it will no longer issue CC ratings for production materials, maintenance, repair, and operating supplies; capital equipment or construction materials; or equipment for the purpose of starting or maintaining any individual plant or business or to alleviate individual hardship.

CC ratings already issued will remain valid, explained CPA, but future ratings will be limited to non-deferable military needs, essential community needs, and to maintain or increase veterans' housing materials or products in critical supply.

The CPA action also revoked Schedule 1 in the regulation, which listed critically short materials.

## Lynch Plans Production Increase During 1947

CHICAGO — Increased production during 1947 is planned by Lynch Corp., manufacturer of refrigeration compressors and other products, according to President T. C. Werbe here.

Mr. Werbe reported to stockholders that even after the highest volume of shipments in the company's history during 1946, a 20% increase over 1945, Lynch still had a "very substantial" backlog of unfilled orders.

He also declared that profits for 1946 would be above the dividends paid during the year. More normal profit margins have been restored through price adjustments, he added.

## Ice Cream Plant Equipment Output Up 135% Over '45

WASHINGTON, D. C.—Production of ice cream plant equipment is now running 135% ahead of the 1945 volume and 160% ahead of the 1941 output, while two to three times as many ice cream cabinets should be available in 1947 as in the past year, according to estimates of the Dairy Industry Supply Association based on a recent poll of its members.

Backlog on refrigeration compressors (large plant-type machines, apparently) however, is 18 to 20 months, this industry believes; freezers are 12 to 20 months behind, and coolers, four to 12 months.

Small ice cream cabinets, 12 ft. or less in size, are expected to be available for almost immediate delivery during 1947, although those that are produced in complete lines of units and in accordance with prewar standards of materials are already sold out for six to 12 months or more, the association estimates.

Other ice cream plant equipment has varying backlogs. Pasteurizers, for example, are six to 15 months (Concluded on Page 20, Column 3)

## Refrigerator Excise Tax Still at 10%

WASHINGTON, D. C.—Reduction in numerous excise taxes to their 1942 levels, which becomes automatic July 1, 1947, following President Truman's proclamation declaring hostilities ended as of Dec. 31, will not include the 10% excise tax on refrigerators, unless Congress directs otherwise.

Some observers believe Congress may take action on all excise taxes before July 1, possibly reducing the refrigerator tax from 10% to 5%.

## Some Producers Needn't Accept Any HH Orders

WASHINGTON, D. C.—Though dealers are still required to fill HH and HHH orders issued prior to Dec. 24, 1946, manufacturers of certain items are exempted from the necessity of accepting such orders from the dealer, the National Housing Agency has ruled.

Included are domestic oil burners, warm air furnaces, floor and wall furnaces, and temperature and combustion controls for heating and hot water.

## Buyers Meet Manufacturers at Marts



Thousands of appliance and furniture buyers jammed the halls and displays during the opening days of the Mid-Winter Furniture Mart in Chicago last week to see the latest models and check on delivery dates with manufacturers. Conferring here are (left to right) Ray Pickett of Vandever Dry Goods, Tulsa, Okla.; C. T. Lawson, vice president of Nash-Kelvinator Corp.; Virgil Borlund of Borlund, Inc.; D. A. Packard, Kelvinator's sales manager.

## New Refrigerator and Appliance Models Introduced at Marts

### NRDGA to Discuss Appliances Jan. 16

NEW YORK CITY—A full-day session on Thursday, Jan. 16, devoted entirely to appliances and radios highlights the program for the annual meeting of the National Retail Dry Goods Association in the Hotel Pennsylvania here this week.

The overall picture on appliance selling will be discussed by three speakers, while four others will tell the sales story on refrigerators, electric ranges, washers, and radio and television.

Dan A. Packard, promoted last week to the position of Kelvinator's household sales manager, will discuss refrigerators at the afternoon session; John H. Banigan, manager of the major appliance and radio division, Allied Department Stores will discuss radio and television selling; John F. McBride, sales manager of General Electric Co.'s range division, ranges; and W. F. Linville, general sales manager of Bendix Home Appliances, washing machines.

On Thursday morning the overall merchandising picture will be outlined by J. B. Ogden, manager of the J. L. Hudson Co. electrical appliance department; John M. Otter, sales manager of Philco Corp.'s radio and television division; and Herman Price, vice president of the Kalamazoo Stove & Furnace Co.

## Kelvinator's Output Hit 422,400 In '46

DETROIT—Nash-Kelvinator Corp. here predicted early this month that in 1947 it will produce more Nash automobiles and Kelvinator appliances than at any time in its history, providing industry is not "plagued by future crippling strikes and material shortages."

Kelvinator Div.'s production of refrigerators, ranges, ice cream cabinets, home freezers, and other appliances totaled approximately 422,400 units in 1946, against approximately 520,000 in 1941. Kelvinator's capacity is estimated to be 1,100,000 units per year.

George W. Mason, Nash-Kelvinator president, predicted, "a prosperous future now depends on the ability of the country to avoid recurrence of the crippling difficulties of the past"

(Concluded on Page 20, Column 1)

### Many Manufacturers Show Complete Lines For the First Time

CHICAGO—A fair number of new refrigerator and major appliance models, plus the expression by executives of a generally more hopeful feeling for production gains on such items early in 1947, made the news for the appliance field from the winter home furnishing markets which opened here Jan. 6.

Westinghouse Electric's appliance division introduced 10 new appliances, including a two-temperature refrigerator model; General Electric brought out its automatic washer and the unusually sized 8-cu. ft. refrigerator; Norge introduced a whole line of new refrigerator models including one with a freezer compartment across the top; Estate Stove had an electric range with a new "defrosting" principle; and Hotpoint showed its new automatic washer and a new refrigerator model.

Also, Kelvinator, Frigidaire, Admiral, Crosley, and Philco were displaying fairly complete refrigerator lines for the first time—in some instances—since the end of the War.

Many of the new items will not be available to dealers for a month or two. But the expressions of opinion on the production picture were pretty optimistic.

"Our production in the first quarter of 1947 should be 50% better than that in the last quarter of 1946; in the second quarter we should do 50% better than in the first quarter, and

More detailed information on the new refrigerator and appliance models displayed at the winter markets will be found on pages 2, 4, and 17 of this issue of the News.

we can hit our peak by the third quarter," declared an executive of one refrigerator and appliance manufacturer.

"While our production is now spread over our entire line of models, our total production is still only about half of what it should be," said a key production official for another firm. (For some time in the reconversion period many manufacturers concentrated on one or two models out of their line.)

The continuing interest and demand in refrigerators and appliances were demonstrated by the heavy flow of traffic in display rooms featuring these items during the first two days of the marts. While interest in furniture and other home furnishings was high, buyers were becoming much more selective on these items, and seemed to be "backing away" from price increases.

Officials of the National Retail Furniture Association, on the basis of information secured from manufacturing executives at the marts, made the following "predictions" on appliance production for the coming year as follows:

**Refrigerators**—It is believed that production should soon surpass the prewar rate of 310,000 units monthly. Demand is expected to be bolstered by an improved rural area market.

**Washers**—Production in 1947 is expected to be at a rate of 250,000 units per month, an increase of 25% over 1946 output. Steel and motor shortages may hold up production in the early part of the year.

**Ranges**—Present output is reasonably good, and no great increase can be expected immediately, because of the steel and enamel sheeting shortage.

**Radios**—Production plans call for an increase in the output of radio-phonograph combinations.



## 10 New Westinghouse Appliances

### New Items Shown at Mart; Shortages May Curb Wide Distribution This Year

CHICAGO—Ten new appliances, including a 7 cu. ft. two-temperature refrigerator and a "Waste-Away" garbage disposer, were introduced by the Westinghouse Electric Appliance Division at the American Furniture Mart during the mid-winter mart here.

Besides the new items, Westinghouse also displayed a new line of redesigned kitchen cabinets, improved electric ranges, and its recently introduced electric comforter, plus its standard major and small appliances.

In addition to the new refrigerator and garbage unit, new products shown included a 40-gallon water heater, upright and tank type vacuum cleaners, electric food mixer, lightweight aluminum iron, automatic and turn-over toasters, and a low cost fan.

The supply of these new products will probably be limited throughout most of 1947, however, commented J. H. Ashbaugh, vice president of the Westinghouse appliance division.

"While we are showing these new products now and will be in production on them sometime in 1947, it is apparent the shortages of materials will delay our marketing most of them nationally for several months," he explained.

"Some of these new products will be tested in two or three areas in 1947. We do not anticipate any increase in the next six months production volume over the volume achieved

in the final quarter of 1946 on the appliances we made last year. We may see a general volume increase of around 20% in the last half of 1947.

"Normally, we are in full production on new models when we show them at any of the merchandising markets. Today this plan of operation is impossible, but we still want to display some of the new products that will be on the market sometime this year."

Westinghouse displayed also three models of the standard 7 and 9 cu. ft. refrigerators; three electric range models; a 6 cu. ft. upright home freezer; a Laundromat automatic washer and an automatic clothes dryer; warming pad; hot plate; sandwich grill; waffle baker; "Cozy Glow" electric heater; electric roaster; standard streamline iron and 40 and 52 gallon round type electric water heaters.

The new 7 cu. ft. two-temperature refrigerator, which will be distributed sometime in the second quarter of 1947, will hold 56 lbs. of frozen food in the frozen food compartment and ice storage tray.

The "Freeze-Chest," with a rated capacity of 1 1/4 cu. ft., or 43 lbs. of frozen food storage, is refrigerated on the top, bottom, sides, and back, and the homemaker can use it for a limited amount of freezing as well as for its primary job of frozen food storage, says Westinghouse. The ice

## Two-Temperature Refrigerator and Garbage Disposer Make Bow



(Left) Storage space for 56 pounds of frozen food is provided by this new 7 cu. ft. two-temperature refrigerator which Westinghouse unveiled at the mid-winter Furniture Mart last week. This model also has general storage space and high humidity sections.



(Right) High chrome tool steel is employed in the cutting and grinding parts of the Waste-Away garbage disposer introduced by Westinghouse at the Furniture Mart.

storage tray is rated at 0.4 cu. ft., or 13 lbs. of frozen food.

The new Westinghouse refrigerator incorporates two controls for regulating temperature. The "Temperature Selector" controls the temperature of the freeze chest, and the second control regulates the temperature of the general food storage area and adjusts automatically in relation to the outside temperature, room temperature, and load conditions. There is no manual adjustment necessary for the second control as it is entirely automatic.

Two 16-cube specially designed and

patented ice cube trays that make it possible to remove one ice cube at a time are supplied with the new refrigerator, as well as two 14-cube "Select-O-Cube" trays and a covered utility tray. The five trays will make 15 lbs. of ice.

A chrome plated name plate and plastic trim on the trip-lock door handle and yellow apricot color trim framing the interior carry out the modern motif of the new two-temperature refrigerator. Faber Birren, nationally known color consultant, selected the color trim for the new model.

Two large vegetable crisper containers, called Humidrawers, with ring-proof ribbed glass covers that hold one-half bushel of fresh vegetables and fruits are included in the refrigerator. They are made of anodized aluminum.

The Waste-Away garbage disposer with its high chrome tool steel shredding sleeve, impellers, and flywheel disposes of all food wastes for the average family in a few minutes. The model will be introduced in a few markets in 1947.

The new disposer can be installed in any cast iron, formed metal, or enameled sheet steel sink having a 3 1/2 in. to 4 in. opening.

The unit does not begin to operate until the flow of water from the sink faucet operates a mechanism called the flow interlock. The Waste-Away automatically cleans itself.

#### WASTE GROUND TO PULP

It holds more than 3 quarts of food and kitchen wastes which go into the compartment directly above the flywheel. Attached to the flywheel are two impellers. This flywheel-impeller action forces the food wastes against the shredding edges of the unit, grinding the waste into pulp.

A new 1,000-watt, automatic pop-up toaster, designed in a modern motif, features a quiet clock-type timer and thermal compensator that insure even browning of every slice of toast from the first to the last. It is expected to reach the market sometime this year.

The new, light-weight electric food mixer is designed for power, ease of cleaning, and efficiency of beating action, and will be introduced to the public sometime this year. It has a 20-point control dial. Tests have shown that the efficiency and power of the food mixer produce one-fifth more volume from items such as cream, eggs, cake batters, etc., Westinghouse claims.

The new aluminum iron, which weighs 3 lbs. and has a black plastic, hand-rest handle, does not replace the standard cast-iron base, 4-lb. stream-

line iron, the production of which will be continued. The aluminum iron will be introduced in the second quarter of 1947.

The new Westinghouse upright vacuum cleaner is completely automatic and has a simplified brush adjustment to compensate for wear and has greater suction for more efficient cleaning.

The new tank cleaner features the Adjust-O-Matic nozzle. This nozzle contains a recessed brush connected to two metal pads on each side of it.

#### TABLE TOP WATER HEATER

The new 40-gallon table top electric water heater is the first of its size made in this style. It is designed to meet a popular demand for increased capacity in table top water heaters. It is 24 in. wide and can be installed in place of a 24-in. base cabinet in the kitchen. It provides the user with 4 sq. ft. of acid resisting, porcelain enameled work surface.

The turn-over toaster is a low cost toaster in a chrome finish. It will toast two slices of bread and when the bread trays are lowered the bread is automatically turned. The base is black plastic in a fluted design.

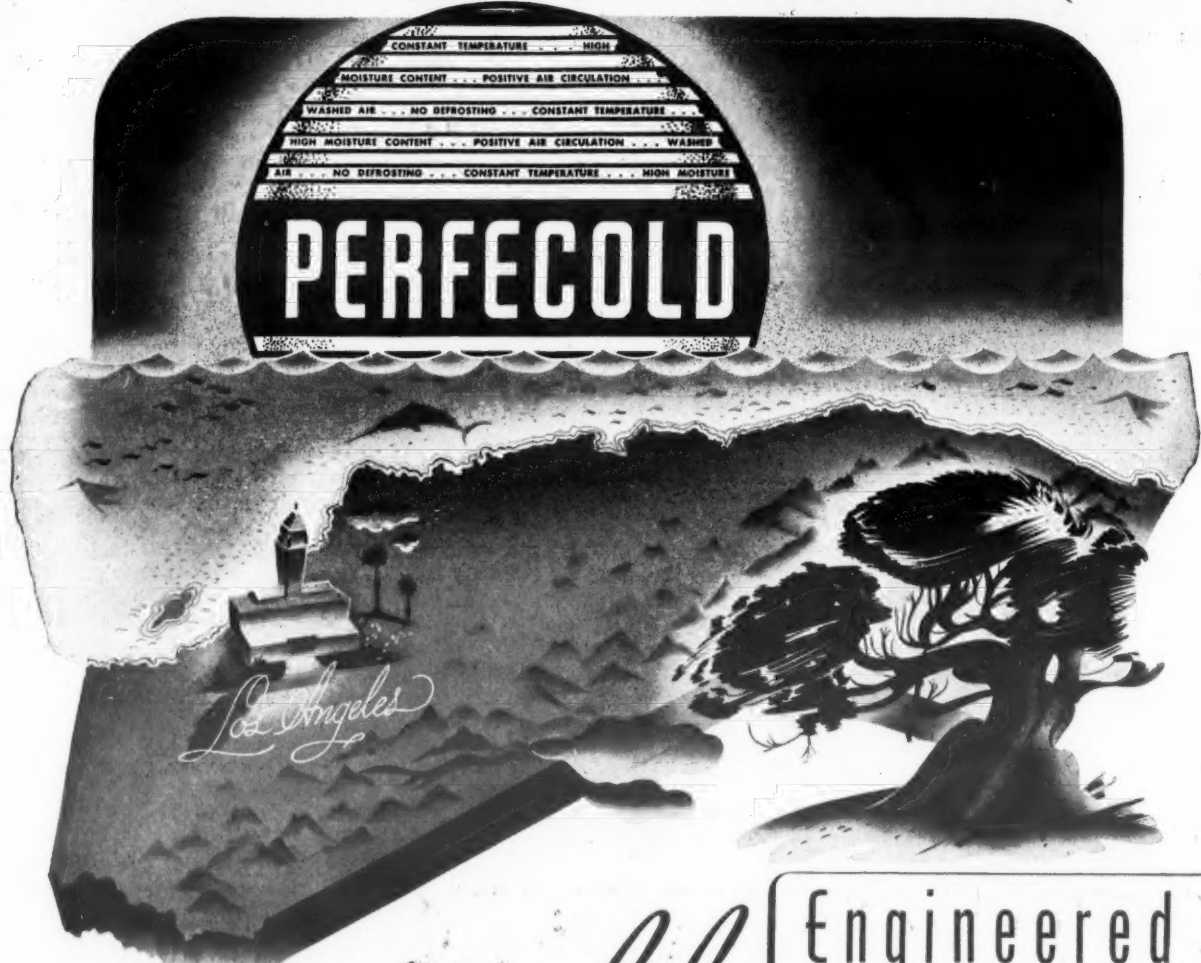
A completely redesigned line of sink, base, and wall cabinets for kitchens will be introduced in a few markets early this year. Features of the new cabinet line include, flush construction, ball bearing drawer suspension, removable and adjustable shelves, soundproofed doors, a new self-adjusting door catch, semi-concealed leaf type hinges, two coat enamel finish on bonderized surface, all steel construction, and easy "hang type" installation. The line will also include sink and counter tops as well as custom-built work surfaces, available in linoleum tops and porcelain finished pressed steel sinks in 42, 54, and 60 in. sizes.

The new line of electric ranges will feature a streamlined work surface with the removal of the center range top vent for the oven. The oven is now vented through a surface element. The deep well cooker on the new ranges has been speeded up.

The new low cost fan, the Lively Aire, is a 10-in. oscillating unit that can be mounted on a wall or used on a desk or table. It will retail for \$11.95 and will be on the dealers shelves by early spring.

Introduced late last year, the new electric comforter made its first market appearance at the mart. It was presented in three colors, rose, blue, and green. It is double bed size and is automatically regulated.

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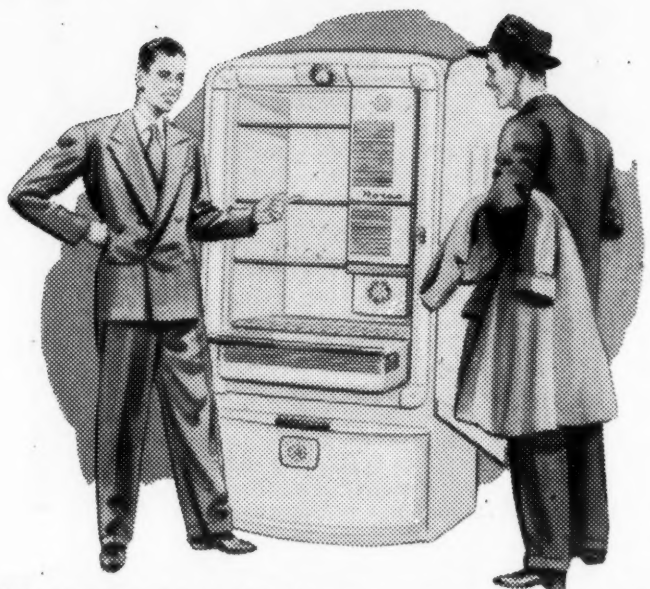
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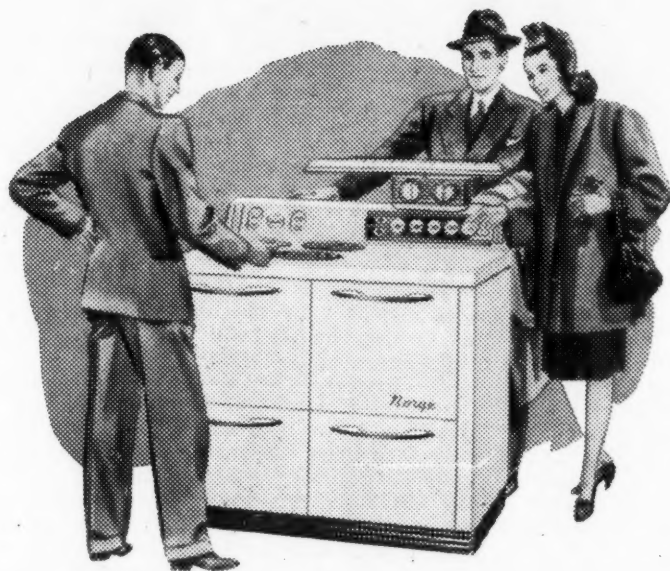
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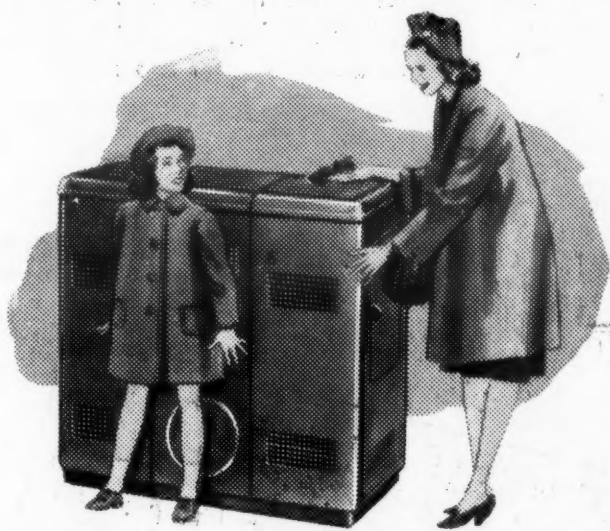
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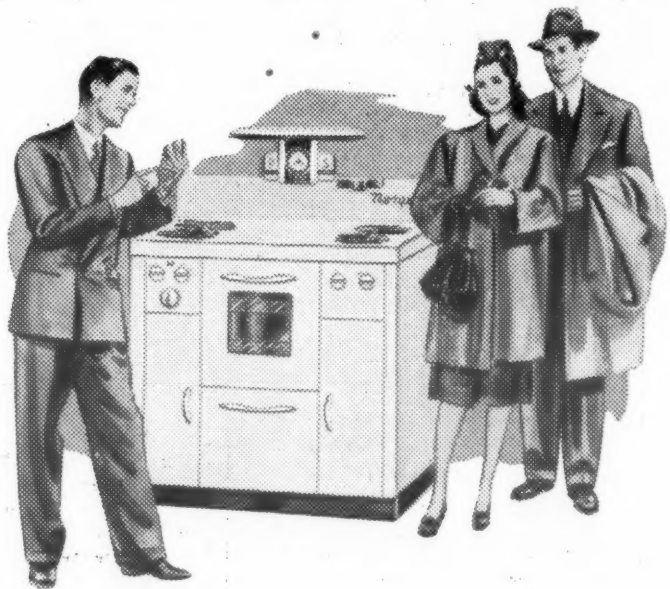
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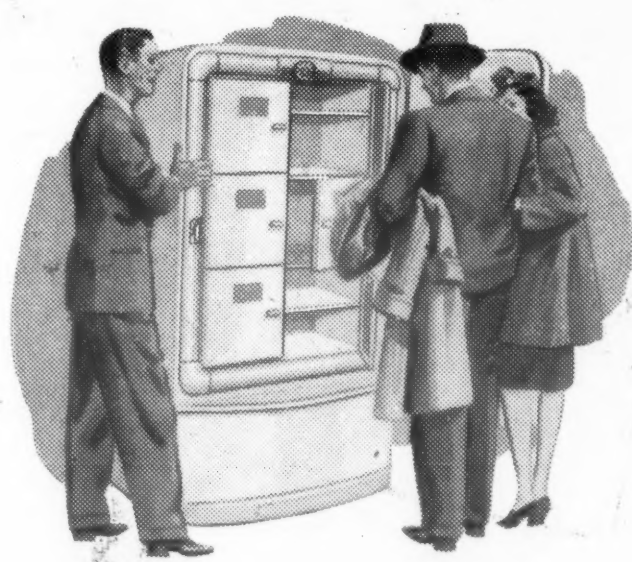
**"RO-TA-TOR" WASHER.** It washes, rinses, dries for the line. Splashproof tub, steam-seal cover, eight-position pressure cleanser and damp drier. Clothes last longer because of the glass-smooth plastic "Ro-ta-tor." Four models.



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# Refrigerators Pace New Appliance Models Unveiled at Chicago Mart

## Hotpoint Shows 8 Ft. Model, New Washer

Coincident with the opening of the Midwinter Furniture Mart here last week, Hotpoint, Inc., a General Electric affiliate, announced its new deluxe 1947 model 8-cu. ft. refrigerator and its new automatic washing machine.

The refrigerator, now being produced as the leader in the company's new line, made its bow before a meeting of regional sales managers. It will be shipped to Hotpoint's 100 distributors before Jan. 15, according to F. M. Slasor, manager of refrigeration sales.

Later in the year, when manufacturing schedules are met, Hotpoint will have three new models of 8-cu. ft. refrigerators, one 6-cu. ft. model, one standard 10-cu. ft. model, and a 4-cu. ft. home freezer, Mr. Slasor declared. The company is already producing a new 8-cu. ft. home freezer.

To more efficiently utilize floor space, the Hotpoint 8-cu. ft. refrigerator occupies approximately the same space as the previous 6-cu. ft. model, Mr. Slasor said.

The 8-cu. ft. job is equipped with a speed freezer of nearly 1-cu. ft. capacity, capable of holding 31 lbs. of frozen food at proper temperatures, he added. An extra large space for storing frozen meats is provided. Four ice trays are furnished.

The top shelf of the refrigerator is removable, permitting storage of bottles. The humidified fruit and vegetable compartments at the bottom are larger than on former models, he explained.

The new model is also equipped with stainless steel shelves, bullet type chrome tipped hinges, a left-over rack, and a new latch and handle with a catch that automatically "seals the door." A "basket sliding adjustable shelf" has a protective rail to prevent dishes from tipping when the entire shelf is removed.

Hotpoint's automatic washing machine uses a conventional tube and agitator, according to Mr. Margolf.

Additional stories on the new appliances displayed by manufacturers at the Chicago marts will appear in future issues of the NEWS.

Automatic operation is achieved through a lower well into which the water is poured. Then the water is pumped into an upper "washing" tub. In that tub, the clothes are soaked with the agitator in motion. After a brief soaking period, the tub is spun at high velocity to spill the water back into the lower tub, Mr. Margolf explained.

The Hotpoint Model EC-8-1 refrigerator lists at \$269.75.

Also noteworthy in the Hotpoint display setup was a wide range of dishwasher-sink combinations, including the 10MD1 at \$454; the 10MC3 at \$329.50; and the MC1 at \$249.50.

Prominently displayed too was the Model 50 WG 542 electric water heater, with a list price of \$133.50.

## 6 Refrigerators In Kelvinator's Line

Displayed by Kelvinator was the six model line of electric refrigerators, and the point was made by one factory official that production is now being obtained on all models.

The line starts with the CS-7 model, which has a center evaporator, offering high speed freezing with two fast-freezing shelves and four ice cube trays, and a moonstone glass chill tray.

Model C-7 offers additional features in the form of a glass meat chest, 5-way Magic Shelf porcelain crisper with plate glass cover, vegetable bin.

The evaporator in Model CD-7, next step-up in the line, is mounted on the side of the cabinet. It has two fast-freezing shelves and four quick-release ice cube trays. It has two crispers and welded steel, bar-type shelves with fluted metal trim.

Model C-9 is the 8.8 cu. ft. model with the evaporator having three fast-freezing shelves, and other features being extra large bottle space, removable shelves to make space for bulky items, oversize porcelain crisper, and the vegetable bin.

Topping the line are the two Kelvinator moist-master models, the M-7 and the MM-9.

The M-7 has a side mounted evaporator, providing space for 30 pounds of packaged frozen foods and ice cubes. Refrigeration is provided through two fast-freezing shelves.



Highlighting Norge's display at the Furniture Mart in Chicago is this new 9 cu. ft. refrigerator (Model TF-947) which can store approximately 35 lbs. of frozen foods in the compartment at the top. Other features include adjustable glass shelves, full-width sliding tray for meats and ice cube storage, and a "Hydrovoir" drawer for fruits and vegetables.

## Norge Models Feature More Freezer Space

The complete line of Norge "20th Anniversary" household electric refrigerator models was on display, including the two new "across-the-top" freezer section models, the first of this type made by Norge.

Tentative pricing plans give Norge "seven models in the \$200-\$300 price class, and two deluxe models at a higher price," pointed out W. S. Law, manager of Norge refrigeration sales.

The line begins with two center freezer models, the CS-747 at \$204.95 (it was emphasized that these prices are tentative). The CD-747 at \$229.95 is a deluxe center-freezer refrigerator equipped with all standard Norge features, such as the special defrost container, meat holder, and special vegetable container.

Model SF-47 is a side freezer model in the 7-cu. ft. capacity with the tentative price of \$249.95. Model SFN is the same style, but with the "Night Watch" automatic defrosting mechanism, with a price of \$274. There are also 9-cu. ft. models in this side freezer style, with or without the "Night Watch" feature.

The third series comprises the new 1947 version of the Norge combination refrigerator and frozen-food locker, featuring an entirely new type of freezer arrangement, more usable shelf-space, more tall-bottle storage, greater freezer flexibility, and still including the "Cold-pack" container for fresh meats. The LF-747 sells for \$269.95 and the LFN-747, with the "Night Watch" device is tentatively priced at \$294.

Rounding out the line is the completely new model TF-947, the new "across-the-top" freezer model, which provides storage space for high amounts of frozen food in a horizontal frozen food compartment, a special pan for storing surplus ice cubes, and a cutaway section at the bottom for bottles or tall items. This model has not as yet been priced.

Another item getting its first big display in the Norge exhibit was the model VHF-6 kitchen-type vertical home freezer, a six-compartment, six-door model.

It has a total capacity of 6.1 cu. ft. and holds approximately 210 pounds of frozen food. Each shelf has its own evaporator surface. Interior is of porcelain enamel, and refrigeration is supplied by a 1/2-hp. sealed "rollator" condensing unit.

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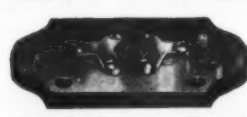
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## INSIDE DOPE

by **GEORGE F. TAUBENECK**

(Concluded from Page 1, Column 1)

**No. 4:**

Four business men agreed to meet for dinner at a popular midtown bistro. Arriving ahead of the others, the first executive was escorted to the reserved table. He sat down, held his head, and groaned.

A few moments later, the second business man was seated at that table, whereupon he also held his head and groaned. The third executive arrived in due course, and followed suit.

Fortified by a few drinks he'd enjoyed with potential customers, the fourth member of the quartet found his own path through the club's obstacle course to that appointed table, took note of the mournful mien of his mournfully silent companions, and announced:

"Okay, fellows. We're all here. Let's not talk shop, just for once."

**No. 5:**

In full swing, a gallant postwar sales convention had swamped the host facilities of hospitable Chicago. Not one hotel room was to be found in the entire metropolitan area.

A belated conventioneer, after asking dozens of room clerks if anything might be available, became discouraged after too many turn-downs. Trudging wearily up to the registration desk of the umpteenth hotel, he asked in a hopeful voice if anything

in the nature of a room might be had.

"Sorry, everything's taken," replied the clerk in a bored tone.

"Please," begged the salesman, "can't you find me any sort of a place to sleep?"

Sensing the lad's desperation, the desk clerk softened.

"Well, we do have a cot available in the auditorium. However, there is a young lady in there now. If we let you sleep in the opposite corner, will you promise not to disturb her?"

With a grateful "thank you," the conventioneer lugged his baggage to his makeshift bedroom.

A few minutes later the same young fellow ran downstairs like mad.

"That young woman in there—she's dead!" he gasped.

"Yes, of course," replied the bemused desk attendant. "But how did you find out?"

**No. 6:**

Old Salt Walter Daily of Bendix is fond of relating the narrative about the admiral who was aboard his flagship in a Mediterranean port when a cruiser made a sloppy job of tying up to her berth.

The cruiser's captain, dreading the message he knew would come from his commander-in-chief, was relieved, if puzzled, when said cryptogram was delivered. It consisted of one word:

"Good."

Fifteen minutes later, the captain was interrupted with a supplementary message reading:

"To previous message please add the word 'God.'"

**New Clutch on Utopia**

Secretaries and stenographers no longer will be able to blame innocent typewriters for errors and mistakes in spelling. A new "errorless" typewriter—which does everything but apply lipstick and paint toenails—has been developed and patented by the Associated Development & Research Corp.

Known as the "visible line" typewriter, this Utopian dingfod types an entire line at one time, rather than letter by letter, as have all previous models. The complete line appears above the keyboard before it is stamped, and so it may be inspected for errors by the operator before it is transferred to paper. If a mistake does occur, a button may be pressed which eliminates the offending line and gives the typist a brand new start.

The keyboard is standard, and its operation is similar to that of an ordinary mechanical or electrical typewriter. This remarkable machine also features a mechanism which insures even margins on both sides of a standard sheet-of-paper, without the necessity of calculating the number of letters in each sentence.

The speedy operator of this dream machine will be able to type letters and manuscripts directly from oral dictation—thus eliminating the time normally consumed in taking and transcribing notes.

Won't women have anything to do in the wondrous World of Tomorrow?

**Postwar Kitchen**

Elimination of drudgery in the postwar kitchen with time-saving devices performing the dirty, uninteresting tasks, is predicted by Miss Geneve L. Shaffer, National Association of Real Estate Boards.

Push-button electric peelers, scrapers, and scrubbers will lighten the task of preparing each meal, says Miss Shaffer. A germ-destroying vegetable spray will have a place beside the automatic dish-washer, with a suction chute to carry the refuse to the incinerator.

Miss Shaffer envisions opalescent, unbreakable dishes stacked in colorful, easy-to-draw out trays, covered like burners in a table top stove. No step-ladder will be needed for the top shelf as there will be no upper cabinets to mar the beauty of the glass-brick and plastic walls.

The recipe phonographic-television radio mounted in the wall will prompt the cook so that all food will be scientifically cooked and timed.

**Decalogue of Private Enterprise**

Many moons ago this department joined hands with Paul Hoffman and the Committee for Economic Development in dedicating 10% of its space and energies to the furtherance of the American Prosperity System.

This column falls short of that mark. But here's something to remember:

1. We cannot bring about prosperity by discouraging thrift.
2. We cannot strengthen the weak by weakening the strong.
3. We cannot help small men by tearing down big men.
4. We cannot help the poor by destroying the rich.
5. We cannot lift the wage-earner by pulling down the wage-payer.
6. We cannot keep out of trouble by spending more than our income.
7. We cannot further the brotherhood of man by inciting class hatred.
8. We cannot establish sound security on borrowed money.
9. We cannot build character and courage by taking away man's initiative and independence.
10. We cannot help men permanently by doing for them what they could and should do for themselves.

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## A Milestone In Refrigeration Production



On Dec. 31 the Frigidaire Division of General Motors Corp. finished 1946 with a flourish by turning out its 8 millionth electrical refrigeration product. C. W. McMillen (left), manager of the inspection division, and S. M. Schweller, chief engineer, were on hand for the event.

## Electric Institute Will Open Year-Long Appliance Display In Washington

WASHINGTON, D. C.—The Electric Institute of Washington has announced that among its plans for 1947 is the opening of a display floor in the Pepco Bldg. here. The year-around display of electrical appliances will cover nearly the entire first floor of the building.

It is expected that this display will greatly increase the interest in the products of the members of the institute.

Other projects of the Institute will be the continuance of its sales training program, an effort to stimulate interest of commercial establishments in better lighting equipment, and a long range educational campaign to impress all home owners with the importance of ample electrical capacity.

Plans for the year are expected to benefit all members of the Institute.

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## WAA Alters Sales Setup To Speed Goods Disposal

WASHINGTON, D. C.—To save time and money, the War Assets Administration is experimenting with a new sales method, which, if successful, will probably be extended to all regional offices, it was learned here.

Already working at Kansas City and San Antonio, the new method offers surplus goods for sale at fixed prices and by competitive bid at the same time.

Thus, a buyer can either purchase the materials offered at the fixed price, or he may submit a bid for the material. Or he may do both, that is, buy the amount that he is permitted to buy at the fixed price and submit a bid for additional goods.

If all of the goods are not sold at the fixed price, then the bids are opened the day following the fixed price sale. To protect itself against too low bids, WAA has established what it calls "upset" prices on the materials offered. If bids fall below that figure, WAA will not accept them.

This new method so far is said to save the agency considerable time and expense in re-inventorying the goods not sold after fixed sales before offering them again on a competitive bid basis.

## Dealer Doubles Floor Space

TONASKET, Wash.—Earl's Electric Appliance Co. here, is more than doubling its floor space. The new quarters will house a radio, phonograph, and record department, according to E. Reid, owner.

## 3-Story Eastern Dealership Razed by \$25,000 Fire

THERESA, N. Y.—Damage estimated at \$25,000 was caused by fire to the three-story building occupied by Hinman & Young, hardware and appliance dealer. The business is operated by Delivan Young and Glenn Hinman. The building had recently been modernized. Though the walls are still standing, the contents were judged a total loss, company officials stated.

## LIQUIDATION SALE

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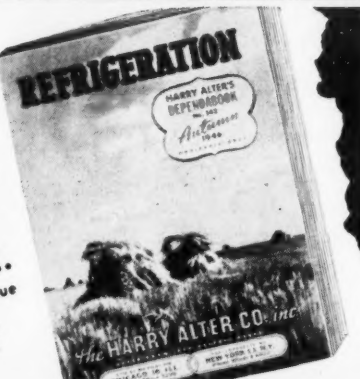
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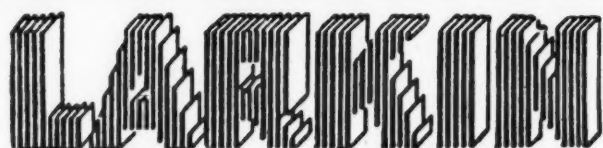
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## New G-E Kitchen Accents 'Open-End' Wall Layout

### Alternate Arrangements Designed to Save Space

DALLAS, Tex.—That rare combination—a kitchen which is at once efficient, attractive, and enjoyable to live in—has been built by the General Electric Co. and is now on display here at the Dallas Power & Light Co.

Top feature of the all-electric U-shaped kitchen is an original open-end-wall arrangement which makes full use of this often-forgotten space.

Known as the Cottage Kitchen, the room is not merely meant for work. The emphasis throughout has been placed on livability.

The kitchen proper—the working area—is equipped with the newest G-E appliances, including a 7-cu. ft. deluxe refrigerator with a left-hand door, a deluxe range, and an electric-sink, combining an automatic dishwasher, garbage disposal, and sink.

Several small appliances, ranging from an automatic toaster and glass coffee maker to a mixer and clock, are also included.

The major appliances are laid out in the U-shape which engineers and home economists have found most efficient and economical of time and labor. The electric sink, from which the housewife looks out through a wide casement window onto her backyard, is centered on the end wall between the refrigerator and range.

Doubling the usefulness of the kitchen is the layout of the wall at the open end of the U. The designer



This U-shaped kitchen, designed by Mary Davis Gillies, decorator and editor, and built by G-E, features a luncheon table that folds into the wall after use.

has developed two arrangements of this space—both of which provide a useful breakfast table and floor-to-ceiling storage cabinets.

One arrangement incorporates a small table which folds up against the shelved center section of the wall when not in use. Three specially built chairs slide into the wall under the table to make an almost flush surface.

For breakfast and quick snacks, the table folds down into the room to provide a three-place setting. Revealed behind the table is a compartment in which table appliances are stored for use.

The other end-wall arrangement calls for a wide casement window against which is set a built-in breakfast bar with four slide-into-the-wall chairs.

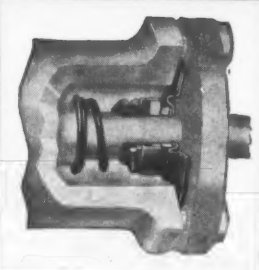
Instead of the common sterile kitchen colors, the designer has used a rich, warm combination of blues, green, and red. Walls and doors are a medium blue; the linoleum counter tops and breakfast tables a dark blue. The whole is accented with apple green window sash; blue white and green striped draperies, and bright red on the narrow molding around the soffit, the sides of the chairs and various small appurtenances.

The kitchen has been illuminated by G-E engineers with 520 watts of fluorescent and incandescent light. For convenient use of small appliances there are nine installed outlets, plus others in the range and cabinets.

General Electric is currently traveling the kitchen in the Southwest.



An adaptation of the G-E Cottage Kitchen design provides a window-side breakfast bar with storage cabinets on either side.



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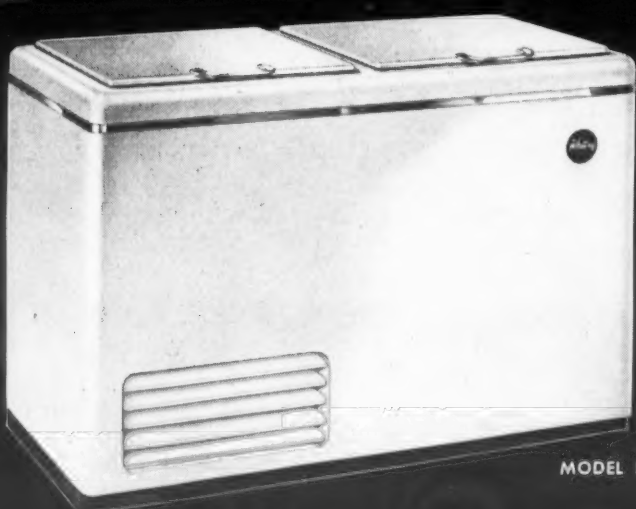
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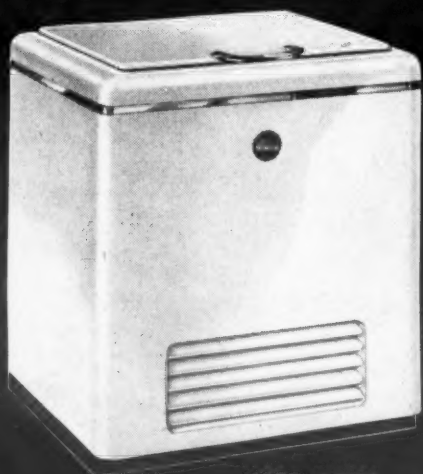


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MODEL F-1000

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## Precooked Frozen Foods Require Control of Microbes with Refrigeration, ASRE Told

NEW YORK CITY—"In 16 years the frozen food industry has not had a single case of food poisoning marked up against it, and if this record is to continue much will depend on frozen precooked foods," declared C. F. Evers, director of the National Association of Frozen Food Packers, at the annual meeting of the American Society of Refrigerating Engineers here.

He made this statement in commenting upon a paper detailing "Some Microbiological Aspects of Frozen Precooked Foods" presented by B. E. Proctor, director of the Samuel Cate Prescott Laboratories of Food Technology, Massachusetts Institute of Technology, who had conducted research into this problem with A. W. Phillips, Jr.

"Adequate refrigeration of frozen cooked foods is imperative from the time of precooking until ready for use by the consumer," emphasized Mr. Proctor, pointing out that when thawed and allowed to stand, many frozen precooked foods are an excellent foundation for the growth of microorganisms, including some that may be harmful.

Most of the foods on the market are quite satisfactory in this respect, but "not all frozen precooked food products being manufactured and sold today are subject to either constant or strict bacteriological control," Mr. Proctor said.

"The importance of extreme care in all the manufacturing operations, combined with immediate freezing and continued storage at below-zero temperatures cannot be stressed too strongly," he declared. "This continued refrigerated storage is neces-

sary through transportation and distribution channels, as well as at the point of consumption unless the foods are used immediately. Retail outlets should not be considered exceptions to this rule.

"Carelessness at any point from raw materials to the ultimate consumer or inadequate refrigeration may result in difficulties which would reflect on the entire industry. The continued use of proper refrigeration temperatures and equipment is the most effective means of protecting the health of the consumer and safeguarding against impairment of product quality," stated Mr. Proctor.

As a result of the research conducted for a year, Mr. Proctor urges that all frozen cooked food processors establish bacterial control setups. He suggests that they employ a direct microscopic method of checking bacteria counts, because this requires only 20 minutes instead of the usual 48 hours necessary in the common plate count technique.

By using this quick method, any high bacteria count could be spotted promptly and the production lines checked.

"The use of some method of coding packaged products of this character in order that different lots or production dates could be identified is strongly recommended as a continuing assistance to quality control," added Mr. Proctor.

In the research program, which was aided by a grant from the Refrigeration Research Foundation, Inc., tests were conducted on more than 70 different types of frozen precooked foods from some 30 manufacturing establishments. The products were

purchased from retail vendors, generally in triplicate, and examined within two hours. If the examination was not made within two hours, the foods were stored at -5° F. for a few days.

Results of the tests, grouped in general classifications of product such as meal, poultry, soups, fish, etc., are tabulated in Table 1 and 2. Table 1 shows the counts obtained by the direct microscopic method; Table 2 lists the results obtained by the conventional plate count procedure. Mr. Proctor points out that creamed fish products tended to have the highest bacteria count of all the items checked.

"No information was available concerning the age of any of the products purchased on the open market," said Mr. Proctor. "One may assume the storage life of many such products at present is reasonably brief as the turnover rate in retail outlets is high and the production rates of a large percentage of the manufacturers in this field are relatively low.

"To determine what may occur under known storage conditions, triplicate samples, from the same batch of the following products, were obtained from commercial packers and placed in storage at -5° F.: ham a la king, swiss steak, corned beef hash, beef stew, and lamb stew. Plate counts were made only on samples not previously opened.

"The decrease in plate counts was studied for each product over a period of five months, as shown in Table 3. During the first month of storage, a rather sharp drop occurred in the plate counts of all products. Thereafter, the decline was much more gradual. However, after five months in storage considerable numbers of viable microorganisms remained in all products."

Table 1—Distribution of Direct Microscopic Counts for Various Groups of Frozen Precooked Foods

Product Type	No. of Samples	Per Cent of Samples Having Microscopic Counts in Excess of			
		0.5 x 10 <sup>6</sup>	1 x 10 <sup>6</sup>	3 x 10 <sup>6</sup>	5 x 10 <sup>6</sup> (per gram)
Meat	23	13.0	4.4	0.0	0.0
Poultry	26	15.4	11.5	3.8	0.0
Fish	47	21.2	16.7	6.4	2.1
Soups	11	9.1	0.0	0.0	0.0
Stews	16	25.0	18.7	6.3	0.0
Creamed fish	21	28.6	28.6	14.3	14.3*
Creamed meat	21	19.1	19.1	4.8	0.0
Miscellaneous	41	7.3	4.9	2.4	0.0

\*Highest value: 7 x 10<sup>6</sup> (the highest figure for any sample).

Table 2—Distribution of Plate Counts in Various Types of Frozen Precooked Food Products

Product Type	No. of Samples	Per Cent of Samples Having Plate Counts in Excess of		
		10,000	50,000	100,000 (per gram)
Creamed fish	21	81.0	47.5	9.5*
Meat	23	56.5	30.4	17.4†
Creamed meat	21	47.6	28.6	9.5‡
Poultry	26	77.0	14.8	0.0
Fish	47	68.0	14.9	2.1§
Soups	11	18.0	0.0	0.0
Stews	16	56.3	0.0	0.0

\*Highest count: 154,000. †Highest count: 400,000. ‡Highest count: 150,000. §Highest count: 500,000.

Table 3—Survival of Microorganisms in Frozen Precooked Foods During Storage at -5° F.

Product	At Start	Plate Counts per Gram (in thousands)*		
		Stored 1 Month	Stored 3 Months	Stored 5 Months
Ham a la king	75	38	23.5	18
Swiss steak	49	9	2	3
Corned beef hash	32	11	6	2.5
Beef stew	27	23	3.5	5
Lamb stew	18	7	5	1.5

\*Figures given are averages of three plate counts on three samples of each product. All samples of each product were taken from the same batch.

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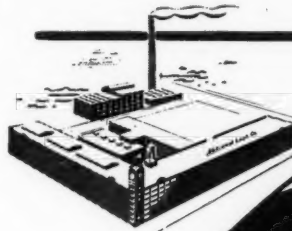
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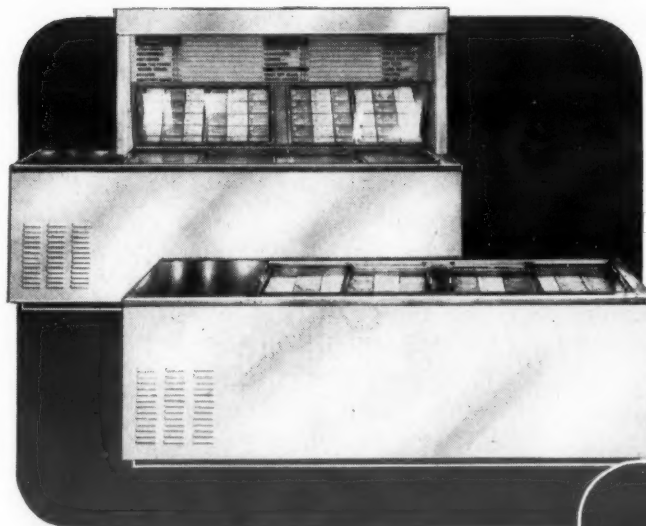


NATIONAL LOCK COMPANY

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ROCKFORD, ILLINOIS

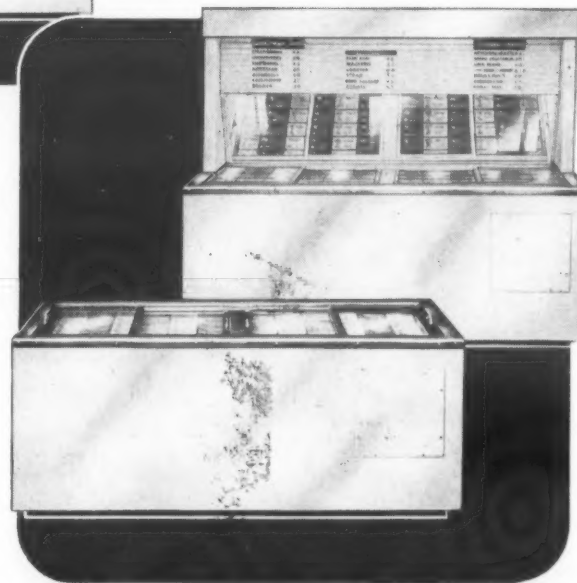
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Model 520A self contained with, without superstructure

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## Hurrah for the Return Of Specialty Selling!

WHAT about 1947? If, as so many economists seem to believe, it will be tougher to sell things this coming year than it was last, shall we all lie down and cry bitter tears? Heck, no! Not unless we're sissies.

Gerald Hulett, Vice President of Electromaster and a highly regarded exponent of specialty merchandising, voices a new note of optimism. Instead of sitting back and fearing the return to the "buyers market" as something deadly, the sales forces of American business should welcome it as a golden opportunity, he insists. Through the length of 175 years of progress, American business has grown to the giant it is on a succession of buyers or competitive markets, he points out. And that's good. We thrive and grow great when spurred by competition.

In the future, just as has been done in the past, the salesman will find ways and means to tempt the buyers to buy. The hopped-up specialty salesman has acted as the lifeguard of the American Enterprise System in good, as well as bad years. He has never let the country down yet, and he never will, because it is an old American custom for him to come through in the pinch.

On a percentage basis, questionable statistics show that some of the extra money in circulation in the U. S. is in the hands of a relative few. Sales performance records recorded in the past, however, prove that sales effort has never been concentrated on this small market, but that real sales opportunity has always been prevalent in the mass market.

In this great market, it is well known that it is the practice of buyers to purchase everything from automobiles to zithers out of current income, not savings.

To attract these buyers in the future, canny merchandisers will offer new merchandise and adequate credit arrangements—plus sales appeal.

Add the well known fact that today every man, woman, and child in these United States needs something, plus the well known ability of American salesmen to sell things to people who didn't know they wanted them, and you'll arrive at a new high sum for real sales opportunities.

Another reason why American businessmen should not fear an economic slump is the tremendous increases shown in wage-earner's income brackets. In 1940, 31% of America's registered individual incomes were under \$1,000. In 1946, there were only 14% of our populace in this group. In the \$2,000 to \$3,000 bracket, 19% of our earners were placed in this category in 1940, while in 1946 the so-called "median group" increased to 31%. More money means more business in all lines.

There's purchasing power—vastly augmented purchasing power—represented in this bulk figure.

Business is like a stool supported by three legs—Finance, Manufacturing, and Sales.

For many years, business has been supported upright mostly on just two of these legs—Finance and Manufacturing. Today, the third leg—Sales—is ready to support its fair share of the load. Competitive selling puts steam into merchandising imaginative-ness. It is the sort of creative impulse on which American progress has always thrived.

Again, during the coming years, adventurous souls will have some fun in business. This spirit of adventure has been sadly lacking in the past few years.

No stories about finance or engineering can pack as much interest as do those of how a real salesman closed a deal while a competitive salesman waited outside a buyer's door. No thrills are greater than those experienced by the winner of a real hot sales contest. Do you, could you, dream that the Romantic Era of Specialty Selling is about to return?



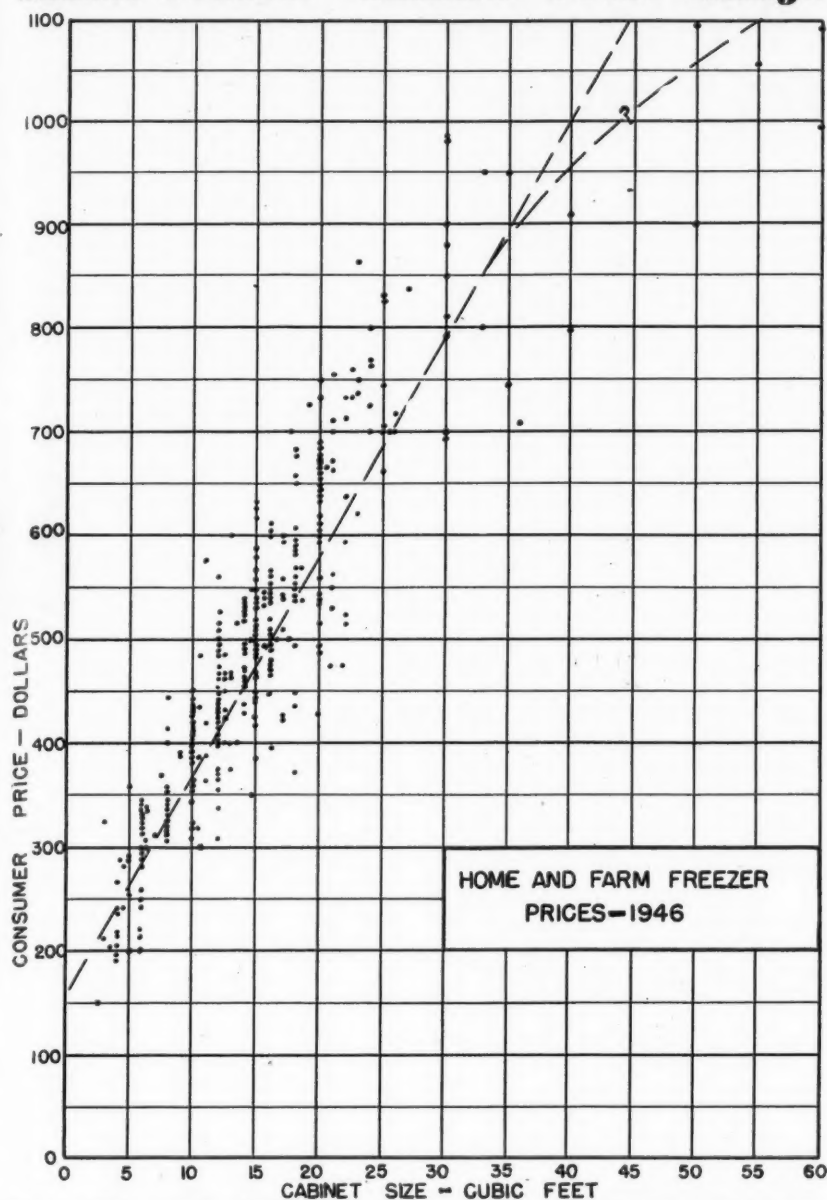
**Small Freezer—Smaller Price Range**

Fig. 1—This graph wherein each dot represents a particular model shows the relative popularity of the smaller units.

## Freezer Graphs Give Trade Comparative Data on Prices, Condensing Unit Sizes

By D. J. Renwick, Assistant Professor of Refrigeration and Mechanical Engineering, Michigan State College

AIR CONDITIONING & REFRIGERATION NEWS has published throughout the past year ceiling prices of home and farm freezers as set by OPA during 1946. This information was finally summarized in the comprehensive tabulation published in the Sept. 30 and Oct. 28, 1946 issues. Since graphs of data have some advantages over the tabulated form from the standpoint of showing an overall picture of averages and trends, the writer has used this tabulated data to construct the graph shown in Fig. 1.

As indicated, the consumer price of freezers is plotted against the size of freezer in cubic feet, each dot on the chart representing some commer-

cially manufactured model. An estimate of the average price of all models is shown by the dash line running through the approximate center of this fairly well defined path of points.

Advantages of showing the data in this form are no doubt obvious to those interested in the frozen food field, but to point out a few:

(1) Manufacturers and dealers can easily locate their own models and note the comparison with all other competitors' prices for similar models.

(2) Several organizations are interested in cost-estimating calculations such as annual cost of owning and operating home freezing equip-

ment. For instance, many state colleges are preparing these estimates for public use, with the annual investment cost estimate based on a suitable fraction of the original selling price or first cost.

J. A. Smith of Frigidaire in the Dec. 9 issue of the NEWS makes such an estimate using cost data from a TVA survey. The average prices used by Mr. Smith compare favorably with the averages presented here in Fig. 1.

(3) The relative popularity of various sized models manufactured can be noted by the large number offered in the 6 to 24 cu. ft. range, while beyond this the models are definitely more scarce.

(4) The prices of small sized models is concentrated within a fairly narrow price range while prices of larger units are decidedly scattered over a wider range.

Whether or not OPA ceiling prices are representative of actual selling price is open to argument, but several checks of actual sales price made by the writer failed to show any significant difference between actual and OPA prices. The range of price for any one model is due to a variety of reasons, some of which are:

(1) Effect of geographical location, since this survey covers the entire U. S. and prices do vary with localities.

(2) Some models of any one size are of standard design to sell "at a price," while others at higher prices are more "deluxe" in accessories.

(3) Some models are of the more expensive stainless steel or aluminum cabinet construction in contrast to less expensive enameled sheet metal.

(4) Some models are classed as commercial rather than domestic and as such, cost more to build since they

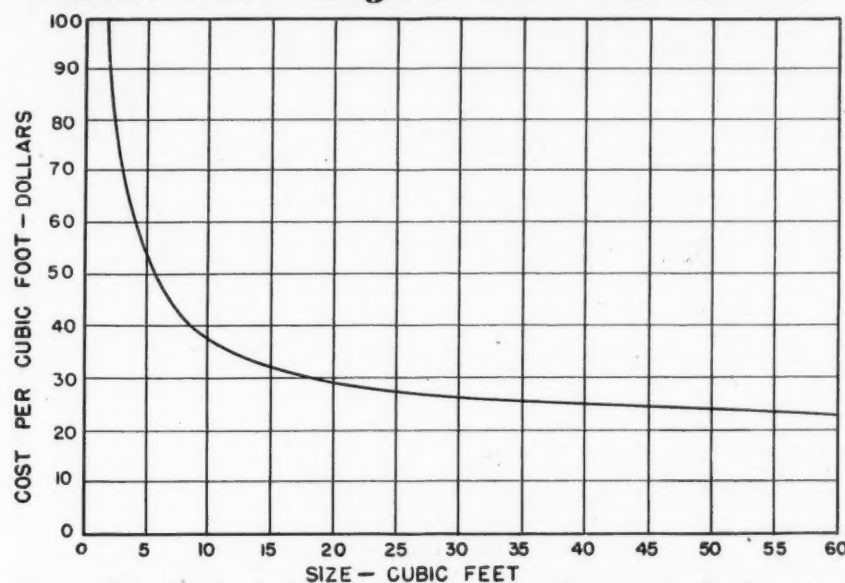
**Small Unit—Higher Cost Per Cu. Ft.**

Fig. 2—This graph shows that the purchase price per cu. ft. decreases as the size of the farm and home freezer increases.

must withstand the rigors of usage by the general public; also, the more frequent opening of doors and the greater turn over of the frozen product stored necessitates a larger capacity condensing unit.

As to the length of time this graph may be applicable is questionable, since the average of prices may go either way, depending on whether or not labor and material costs increase as compared to the reducing effects of competition and mass production.

For cost estimating purposes, some persons might find use in Fig. 2, which is the cost per cubic foot at various sizes as calculated from the "dash line average" prices of Fig. 1. Thus, in Fig. 2 a 10 cu. ft. model

averages about \$38 per cubic foot or a total cost of \$38 x 10 cu. ft. = \$380. It also shows the high cost per cu. ft. in small sizes as compared to about \$25 per cu. ft. in the largest sizes.

Fig. 3 is interesting in that it shows the popularity of the size of condensing unit used in various sizes. Thus 1/4 and 1/2 hp. units are typical of small sized models while 1/2 and 1/3 hp. are popular for the larger sizes. Considerable overlapping may be noted all along the line, which indicates some differences of opinions among manufacturers as to the proper capacity of condensing unit for any one sized cabinet. However, a fairly definite trend does seem to be established.

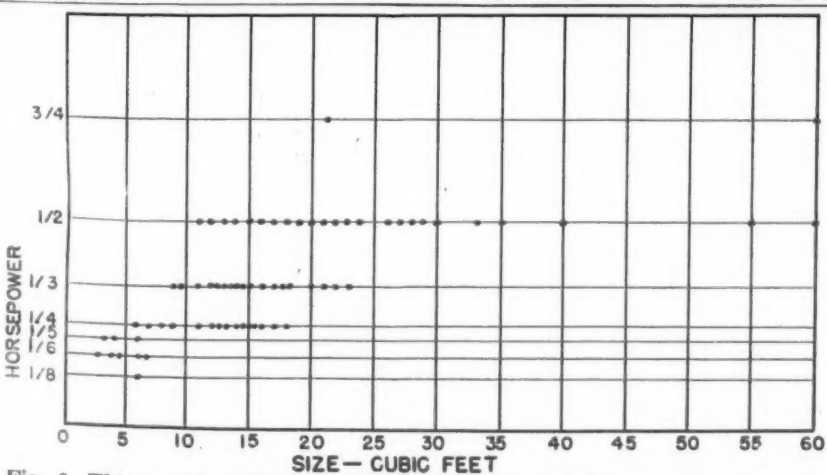
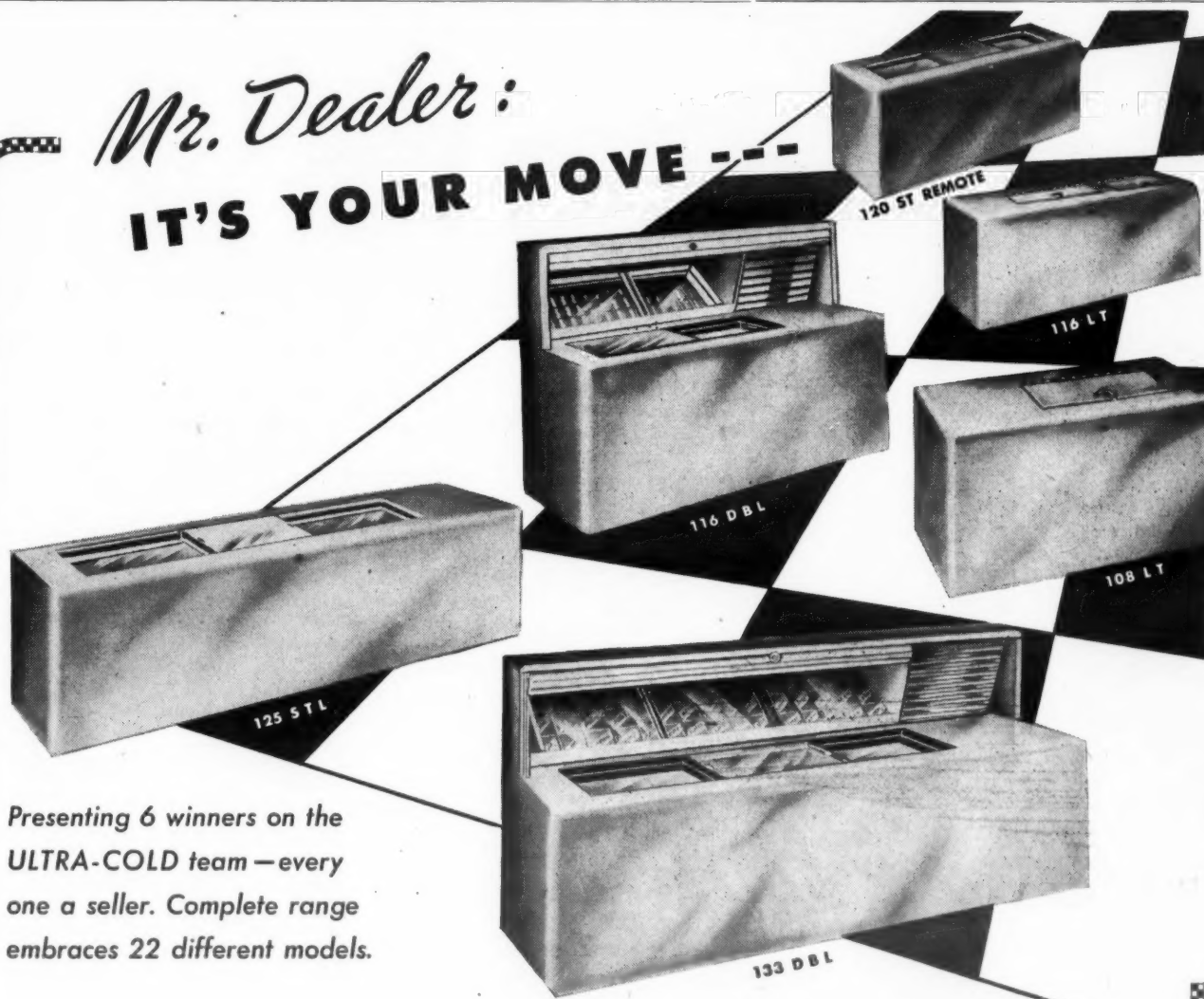


Fig. 3—This graph indicates the difference in opinion among manufacturers of farm and home freezers as to the condensing unit size needed in any particular model.

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# Prepackaging Offers New Opportunities Plus New Problems for Refrigeration

NEW YORK CITY—"I've often been told by storekeepers that their problem is not to store produce but to sell it," commented V. W. Smith of the C. V. Hill Co., following the presentation of C. O. Bratley's discussion on "Refrigeration of Prepackaged Fruits & Vegetables" at the annual meeting of the American Society of Refrigerating Engineers here.

Mr. Bratley is a senior pathologist associated with a division of the U. S. Department of Agriculture with headquarters here.

### More Refrigeration Needed

The increasing interest in prepackaged foods implies that more refrigeration will be needed all along the line in the handling and selling of foods, Mr. Bratley's talk indicated, but he also emphasized that prepackaging presents problems which proper handling and refrigeration will have to solve.

"The packaging of fruits and vegetables in consumer units, as now practiced on the market, requires the produce to be held over in the warehouse for an extra day," explained Mr. Bratley. "The fruits and vegetables are usually delivered to the warehouse either by truck or refrigerator car in the early evening.

"If they are not to be prepackaged, they are separated into orders and are delivered by truck to the stores during the night or early morning. If to be prepackaged, they are placed

in the produce cooler until morning when they are removed and prepackaged item by item.

"The prepackaging operation typically consists of weighing or counting out a consumer-unit amount of the item, arranging it in a fiberboard tray, and passing it through a machine that overwraps and heat-seals it in transparent moisture-proof cellophane, designated as 300 weight. The sealed packages are placed immediately in fiberboard shipping cases and are returned to the produce cooler until the orders for the stores are assembled late in the evening.

"Late in the evening of the packing day, the order for each store is assembled on hand trucks and again replaced in the produce cooler until the delivery trucks are loaded. Delivery to the stores is made in covered non-refrigerated trucks during the early morning.

"At the store the produce is unloaded and placed in a non-refrigerated delivery entry. Shortly after the store opens, part of the produce is removed from the shipping cases and placed in the open-top refrigerated display cases. The overflow is left in the shipping cases and is stowed in the refrigerated compartments in the base of the display cases. When these refrigerated spaces are filled, the remainder of the produce is held non-refrigerated," pointed out Mr. Bratley.

Discussing the tests which were made in the summer of 1946 in the

New York City area, Mr. Bratley first cited the temperature studies made during the actual prepackaging operations. The produce cooler in the warehouse was set to maintain a temperature of 40° to 45° F., but between the heat of the fruits and vegetables and the fact that the refrigeration was turned off for two hours at night during cleaning and loading operations, the average temperature of the fruits and vegetables was 50° to 60° F. in the morning, unless the packages had been iced.

"In commercial prepackaging operations each item remained out of the produce refrigerator for 1 to 4 hours, averaging about 1½ hours," said Mr. Bratley. "During this period the fruit or vegetable remained in its original container about ½ of the time, on the sorting belt or table and in the unwrapped package about ¼ of the time, and in the shipping case after wrapping for about ¼ of the time."

### Temperature Increased

After the prepackaging process the fruits and vegetables were returned to the cooler room where they remained for varying lengths of time awaiting delivery by truck to the stores. Surprisingly enough, pointed out Mr. Bratley, the average temperature of some items increased rather than decreased during their comparatively short stay in the cold room. With a load of lima beans only the top cases were cooled during a 5½-hour period, and at a rate of less than 1° per hour.

Temperature of the produce also tended to increase during the trucking period, but Mr. Bratley emphasizes that "no general statement can be made about the rate of warming during delivery to the stores unless the starting temperature, ambient temperature, and the location of the cases are indicated."

Tests on the temperature of the prepackaged foods were then conducted in the refrigerated open display cases at the retail stores, the first being with 1 lb. packages of green beans stacked five layers deep.

"The beans had not been refrigerated all day and had a temperature between 70° and 80° F. when placed in the display case.

"During an overnight period of 12 hours only the bottom packages in the stacks were satisfactorily refrigerated," declared Mr. Bratley. "The temperature of the beans in the middle and top layers dropped barely below 70° F. The bottom layer beans required approximately 8 hours to reach a temperature of 50° F. The air along the bottom of the bottom layer packages ranges between 33° and 38° F., and the air in the store cooled from 80° to 74° F. during the overnight period."

On the average, temperature of the packages of beans stored in the holding compartment beneath the open refrigerated display rack in-

creased slightly, at the rate of about ½° per hour, he added. This rate of increase would have been much greater, however, had the prepackaged beans been stacked at store temperature (in the 70's) instead of in the holding compartment where the temperature averaged 48° F., according to Mr. Bratley.

Several experiments were conducted in attempts to improve the cooling of the prepackaged products. Temperatures in the produce cooling room at the distribution point were lowered, and some improvement was found when a meat room employing fan coils was held at 36° F. Here again, though, the packages in the middle of the stacks did not cool.

Other tests featured methods intended to provide more exposure of the packages to the air.

"The packaging materials and the fiberboard of the shipping cases are effective thermal insulating materials," declared Mr. Bratley. When stacked one above the other, the shipping cases can lose heat only through the ends and sides which commonly are of double-thickness, corrugated fiberboard. This makes the transfer of heat extremely slow unless a larger differential in temperature is maintained between the outside and inside. . . .

"Cooling is much more rapid in shipping cases when placed on strips or otherwise kept separate from each other. Although placing strips between layers of cases is more costly, both in labor and in the use of refrigerated space, it is one way that cooling after packing might be accomplished," suggests Mr. Bratley.

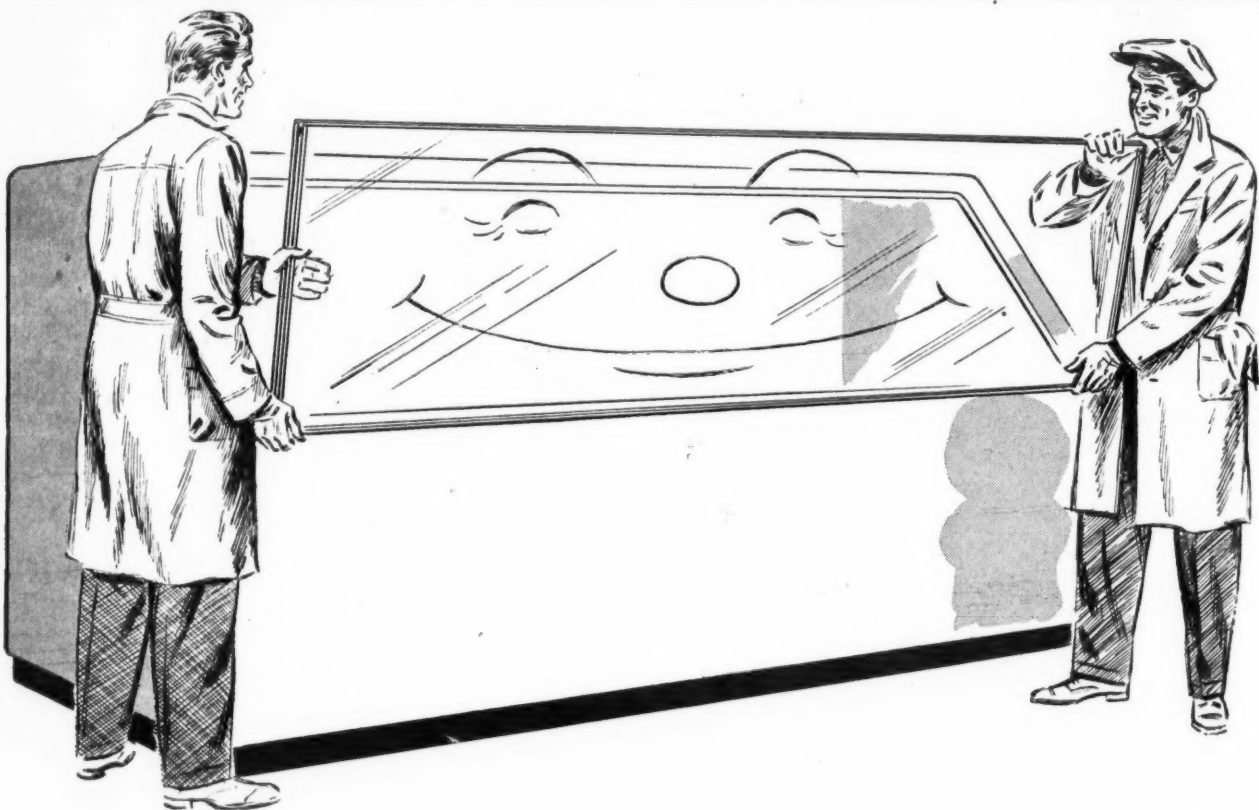
"If the lids were left off during the holding period, the packages could be cooled twice as fast as otherwise. Another possibility for cooling the produce after packaging is to hold the unit packages on racks in the refrigerator, and then place them in shipping cases just before they are trucked to the store. The insulating effect of the shipping case is of marked benefit in preventing rise in temperature during delivery to the store.

### 'The Best Method'

"Undoubtedly, the best method of maintaining the produce at low temperature is to start with the item thoroughly refrigerated, prepackage it quickly, and return it immediately to an adequately cooled refrigerator," opined Mr. Bratley. "If the prepackaging workroom could be refrigerated there would be less rise, but this could be done only to a limited extent on account of the packers' comfort.

"Possibly an arrangement could be made in which the prepackaging would be done on a work line just outside of a refrigerator room," he suggests. "A slowly moving dumping belt inside the refrigerator might pass through a tunnel in which air, cooled to a lower temperature, would be blown over the product.

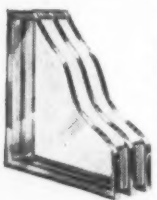
"The belt would pass out through a port in the wall and deposit the produce on the packing belt. A conveyor at the end of the wrapping machine would carry the packed shipping cases back into the refrigerator without delay."



When a smile means L.G.C.\*

L.G.C.\* Lower Glazing  
Costs because Thermopane  
is installed as a unit.

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1. **INSULATING AIR SPACE.** The air inside a Thermopane unit is scientifically cleaned, dried and hermetically sealed at the factory. These air spaces give Thermopane its high insulating efficiency.

2. **L-O-F'S BONDERMETIC SEAL.** This metal-to-glass seal bonds the panes of glass into one unit to guard against dirt and moisture entering the air space.

3. **CLEARER VISION.** The sealed-in dry air greatly reduces the possibility of condensation.

4. **ONLY TWO SURFACES TO CLEAN.** The glass surfaces inside a unit are specially washed at the factory. No extra cleaning is required.

5. **FABRICATED TO SIZE.** Each Thermopane unit is manufactured to your exact specifications—requires no cutting or trimming, and is easily installed like a single pane of glass.

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Thermopane eliminates this extra cost and extra cleaning and handling because its three or more panes are installed as a single unit. In addition, your cases will have the added sales punch of fogless vision.

Libbey-Owens-Ford Glass Company was the first to introduce a sealed, glass insulating unit. Thermopane, protected by its Bondermetic Seal, has proved itself in thousands of frozen food and similar cases. In your cases, too, Thermopane can assure L.G.C. For further information write Libbey-Owens-Ford Glass Company, 1217 Nicholas Building, Toledo 3, Ohio.

\*Reg. U.S. Pat. Off.

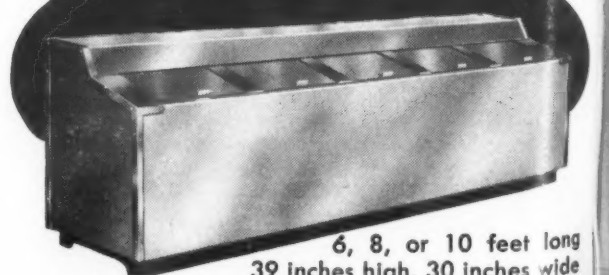
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FRANK T. CARNEY

### Reorganization of Bush Staff Names Frank Carney

HARTFORD, Conn. — Frank T. Carney, present works manager of the Bush Mfg. Co., was appointed to the office of assistant secretary at the last meeting of the board of directors.

In the reorganization necessitated by a consolidation of the company's three plants into the new plant located on South St. in West Hartford, Joseph F. Fagan, present superintendent of the Wellington St. plant, has been appointed methods development engineer and assistant to the works manager.

Harry C. Kromas, present superintendent of the Capitol Ave. plant, will become manufacturing superintendent. James F. Coffey, present superintendent of the New Britain Ave. plant, will become assistant to the manufacturing superintendent.

Mr. Carney will continue in his capacity of works manager in the new plant. C. A. MacArthur will continue as sales manager, and H. P. Peterson as chief engineer.

### Mack Resigns Weber Post To Organize Advertising Agency In Los Angeles

LOS ANGELES—Don Mack, director of advertising and sales promotion for the Weber Showcase & Fixture Co., Inc., since 1936, resigned this position on Dec. 31 to open his own advertising agency.

Although Mr. Mack has terminated his position as advertising manager of the Weber organization, he will continue to work closely with the company as an advertising counsellor. His agency has been appointed by Karl Weber, president, to handle the Weber account. In addition to this account, he will also handle the advertising for Refrigeration Engineering, Inc., Sandee Muffler Co., Thermal Products Co., and the Rose Electro Therapy Mfg. Co.

The new agency, which will be known as Don Mack, Advertising, will be located at 7250 East Slauson Ave., Los Angeles.

Mr. Mack, who has been in the industrial and retail advertising and selling field for the past 25 years, said that he would handle accounts specializing in refrigeration, frosted foods, ice cream, and the food merchandising field.

The agency business is not an entirely new venture for Mr. Mack as he has had previous agency experience in both northern and southern California.

In addition to a regular agency service, the new agency head will offer advertising counsel in merchandising as well as market research.

The advertising department of Weber Showcase & Fixture Co., Inc., will be under the supervision of Todd Reiland, who was formerly assistant advertising manager of the company.



DON MACK

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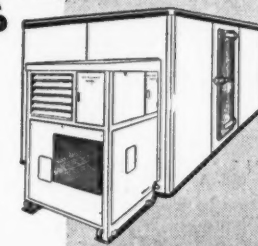
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1518 WALNUT ST. • PHILADELPHIA 2, PA.

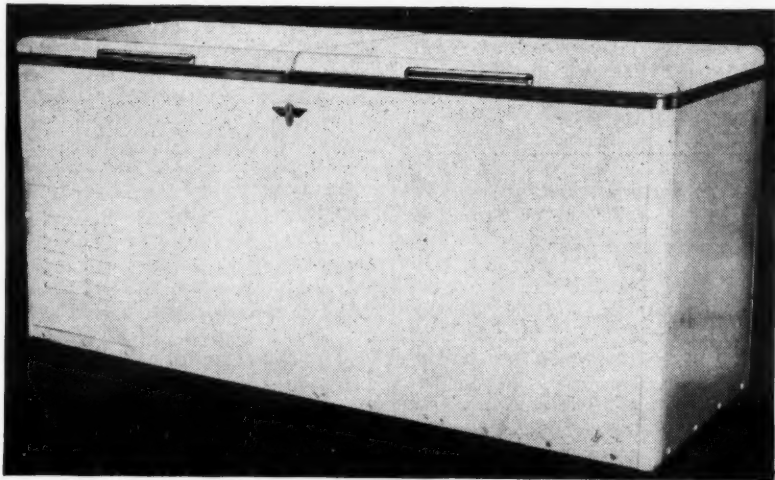
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Call Pennypacker 5-9913

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- ★ 6" INSULATION
- ★ HEAVY DUTY HARDWARE
- ★ ACCESSORIES
- ★ LEAK PROOF JOINTS
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#### Frozen Food Cabinet

- 18½ cu. ft. 0° storage
- Equipped with ½ H.P. unit
- Insulated with 4 in. Fiberglas board
- Dulux baked white enamel finish, with chrome trim

Dealerships available—write or wire

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### Henry Voskamp Becomes Plant Superintendent At Wilson Cabinet Co.

SMYRNA, Del. — Henry A. Voskamp, Jr. has been appointed plant superintendent of the Wilson Cabinet Co., Inc. here with full charge over the entire operation of the plant. J. E. Wilson, Jr., president, has announced.

Associated with the Armstrong Cork Co. of Lancaster, Pa., for more than 11 years, Mr. Voskamp is said to have advised manufacturers of commercial refrigeration equipment on methods of insulating such equipment.

With Armstrong, Mr. Voskamp has served as chemical engineer, sales engineer and trouble shooter, assistant manager of the chemical warfare and sub contract department, and assistant production manager.

### Heat-X-Changer Co. Appoints R.A. Chadburn Chief Engineer

BREWSTER, N. Y. — Robert A. Chadburn has joined the Heat-X-Changer Co. here as chief engineer, the company announced recently.

He was formerly refrigeration engineer with George G. Sharp, New York naval architect, and is a graduate of Stevens Institute of Technology.

## KRACK

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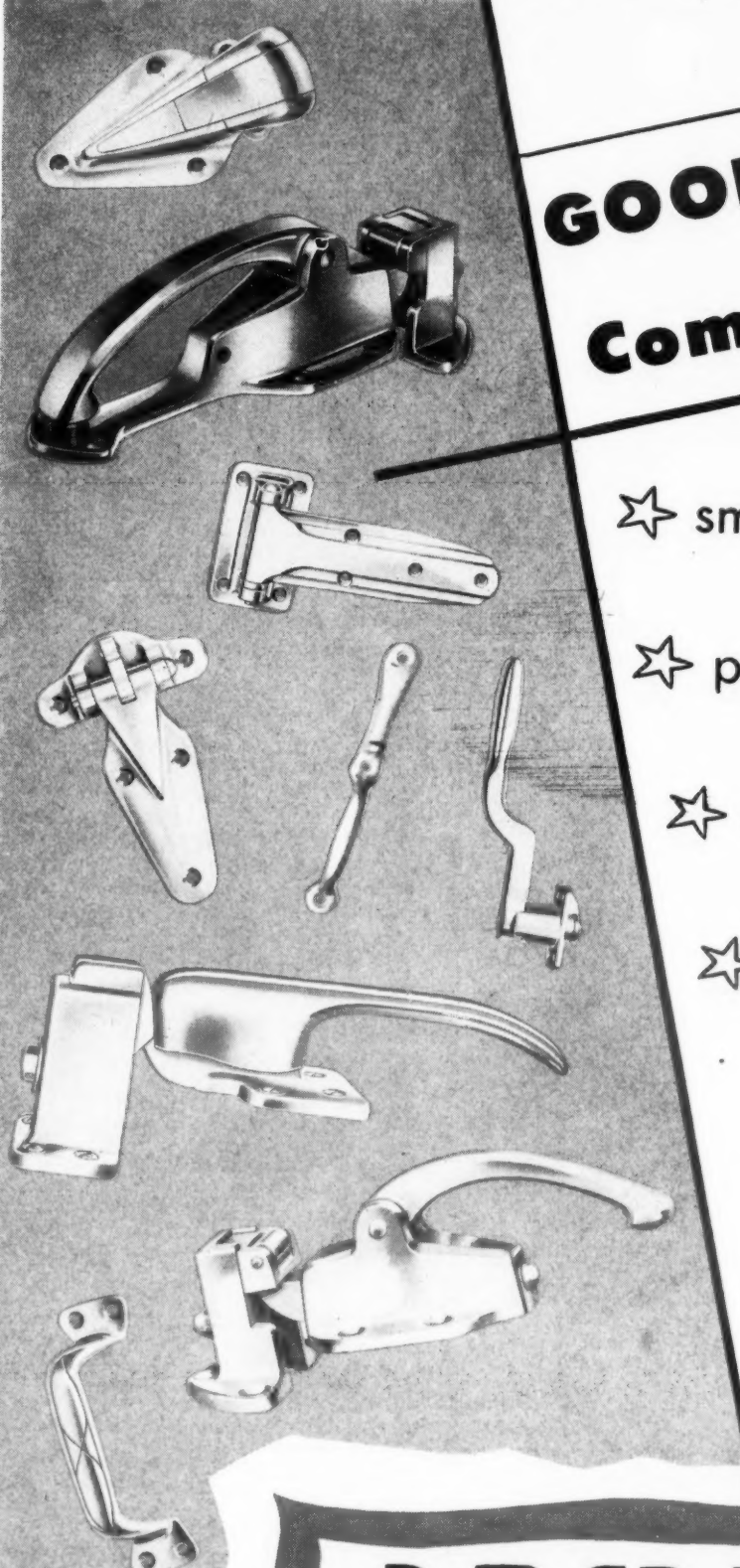
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## Harvard (Neb.) Group Will Form Co-op Locker Plant

HARVARD, Neb. — The Harvard Non-stock Cooperative Locker association has filed articles of incorporation with the Nebraska secretary of state to operate a frozen food locker service; butcher, package and cold store livestock and poultry; and manufacture ice, ice cream, butter and cheese. Incorporators are Leonard F. Silko, Walter Yost, Ira Fishback all of Harvard, and Clayton C. Jaeger of Clay Center, Neb.

## Restaurant Features New Refrigerated Meat Room

CHEYENNE, Wyo. — The Trail Coffee Shop at 216 West 16th St. has been opened for business by Ed and Lee Yarter with a refrigerated meat room which they claim is the finest, most modern in the state.

The walk-in cold storage room opens off a spacious refrigerated work room, equipped with a portable air conditioning unit.

## Insulation Blocks Save Lumber In Locker Plants

### CPA Approves It, Too

By C. Dale Meriele

FREMONT, Neb. — By using "home-made" building blocks formed from vermiculite insulation, August F. Schenzel has almost completely eliminated the use of scarce lumber in the construction of locker plants, a move which found considerable favor with local CPA officials too, he points out.

As operator of the Schenzel Refrigeration Service here, he has constructed four locker plants hereabouts with this method, and a fifth is nearing completion.

He makes the insulation blocks in wooden forms 32 in. long x 12 in. wide x 3 in. thick, using Zonolite concrete aggregate and portland cement. The proportions are one bag of cement to 4 cu. ft. of the aggregate, plus 1 qt. of "addmix" and about 13 gals. of water. (If production of these blocks continues, Mr. Schenzel says he may use steel instead of wooden forms.)

This mixture should not be too thick—about the consistency of pancake batter is recommended, and it shouldn't be tamped in the forms, he advises. Merely pour the mix in, after which it is "screed" off the top. No trowel is used.

Some of the big slabs are then quartered with a saw to form blocks measuring 3 in. by 8 in. by 12 in.

In constructing a locker plant by this method, Mr. Schenzel first has the outer shell of the building erected, using standard cement blocks. This wall is then water-proofed on the inside with asphalt paint. Next this inner side is further sealed with two alternate layers each of asphalt paper and hot asphalt.

Next step is to lay the concrete floor and after this is done, the large insulation slabs are used to start building up an inner wall. These slabs are laid on their side 12 in. from the outer shell of the building. After two tiers of these slabs are in place, the floor is finished.

The small 8 x 12 x 3 in. slabs are regularly spaced on end over the entire floor area and the intervening space filled with loose Zonolite insulating fill. Alternate rows of the floor support blocks are usually made doubly strong by cementing two blocks back to back with asphalt.

After the sub-floor area has been filled to the level of the support block, resin paper is placed on top and a conventional reinforced concrete floor laid.

Erecting of the inner wall is then continued to the height desired, tie wires being run from the outer to the inner walls, which are also supported by wood spacers. Space between the two walls is then filled with loose insulation.

About the only lumber employed are the 2 by 12 in. joists which ride on the outer shell of the building. Two-inch Zonolite blocks are fastened to the joists with 16-penny nails and roofer's caps. Additional loose insulation goes on top of the ceiling slabs. Interior of the room is then painted with an "emulsion" finish.



"Home-made" blocks formed out of vermiculite insulation are used by August Schenzel to build locker plants. Here loose insulation is poured into the sub floor. Walls and support blocks are made of insulation.

## Steam Ejector 'Flash Freezes' Foods For Beech-Nut Under a High Vacuum

CANAJOHARIE, N. Y. — "Flash-freezing" of foods is being employed by Beech-Nut, Inc., here in an Ingersoll-Rand system which uses steam ejectors to create a high vacuum causing moisture in the foods to boil off rapidly at "low" temperature and thus freeze the foods.

No conventional compression or absorption refrigeration equipment is involved in the system, believed to be the first commercial application of this type of food freezing.

Beech-Nut is freezing ingredients for storage pending processing into strained foods, and claims that food frozen by this method retains most of the moisture; defrosts quickly because the food freezes in individual pieces; is not subject to oxidation because virtually no oxygen is present in the freezing compartment; original volume of the food is retained. There is a slight loss of weight resulting from evaporation of the water, but this can be quickly regained, it is claimed.

The principle involved in this system is, of course, the basic physical law of pressure-temperature relationships employed in conventional sys-

tems. Under low pressures water will flash into steam at temperatures far below its usual boiling point of 212° F.

At the Beech-Nut plant several steam nozzles discharge jets of steam at 3,500 to 4,250 ft. per second across a vacuum chamber connected to the freezing chamber itself. Besides producing a vacuum, the jets carry off vapors created in the freezing process.

The system is claimed to be entirely automatic. An operator loads the food into the machine and closes the loading door by a pushbutton. First steam is admitted to blanch the food. After blanching, the food is cooled somewhat (Beech-Nut doesn't say how), and the food is next dropped into the freezing chamber. While the first charge is freezing, a second load is placed in the blanching compartment. After freezing, the food is dropped into a storage compartment.

Such foods as cooked and raw meat, peas, cut beans, cut celery, sliced carrots, onions, apples, pears, peaches, and mushrooms have been successfully frozen by this process.



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## Refrigeration Problems And Their Solution

By P. B. Reed

For Service and Installation Engineers



Manager, Refrigeration  
and Air Conditioning  
Division, Perflex Corp.

### Electrical Currents (4)

#### SERIES CIRCUIT

If the resistances in an electrical circuit are in series, that is one after another, the same amount of amperage goes through all of them but the total voltage drop is the sum of all the separate voltage drops across each of the resistances in a circuit. (See Fig. 1.)

#### PARALLEL CIRCUIT

What happens if the two resistances in a circuit are in parallel, or in multiple as we say in refrigeration language? Suppose that we have two light bulbs, each having 55 ohms resistance, in parallel on an 110 volt circuit. For the time being we will say that the line itself has practically no resistance and that the full 110 volts gets to the light bulbs. Since each light bulb has a full 110 volts across it and since each has a resistance of 55 ohms then each will draw 2 amperes, so the total amount of amperage in the circuit will be 4 amperes. (See Fig. 2.)

Moreover, we could add as many lamp bulbs or motors as we wanted to—up to the amperage capacity of the generator or transformer or the line itself—and the voltage to each bulb would be a full 110 volts and the total amperage would be the sum of the amperages drawn by each bulb and motor—if they were in parallel.

It must be noted that if the line voltage is 110 volts and the total

current is 4 amps then the total resistance must be  $22\frac{1}{2}$  ohms for,

$$R = \frac{V}{A} = \frac{110}{4} = 27.5$$

#### TOTALING PARALLEL RESISTANCES

We see, then, that if two equal resistances are in parallel that the total resistance is one-half the resistance of one of them. If there are three in parallel, then the total is one-third—provided they are equal. If they are unequal the total is one divided by the sum of their reciprocals or:

$$\begin{aligned} \text{Total } R &= \frac{1}{\frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3} + \text{etc.}} \\ \text{If three resistances of 25, 50, and 100 ohms are in parallel the total resistance is} \\ \text{Total } R &= \frac{1}{\frac{1}{25} + \frac{1}{50} + \frac{1}{100}} \\ &= \frac{1}{\frac{4}{100} + \frac{2}{100} + \frac{1}{100}} \\ &= \frac{1}{\frac{7}{100}} \\ &= \frac{100}{7} \\ &= 14.4 \text{ ohms} \end{aligned}$$

Thus with resistances in parallel the total amperage is the sum of the several amperages of the various current consuming resistances.

#### COMBINATION OF SERIES AND PARALLEL CIRCUITS

What happens if there is a combination of series and parallel resistances as in Fig. 3? There the line resistance is 10 ohms and there are five light bulbs of 55 ohms each. The total resistance of the light bulbs is 11 ohms ( $55 \div 5$ ) and of the entire circuit 21 ohms ( $11 + 10$ ). Then the total current flowing is 5.2 amps ( $110 \div 21$ ).

The voltage drop through the line only is

$$V = 5.2 \times 10 = 52 \text{ volts}$$

leaving only 58 volts at the light bulb terminals, so they would barely get red.

This illustrates how necessary it is to prevent line losses, especially as the load increases. In a previous example, with the same line resistance of 10 ohms but with only one light bulb the voltage drop was 17 volts in the line leaving 93 volts to the light bulb. Even 17 volts line loss is excessive, however.

#### WHAT IT MEANS IN PRACTICE

In practice, line voltage drops should be held to 1 or 2% to prevent excessive losses, but more important,

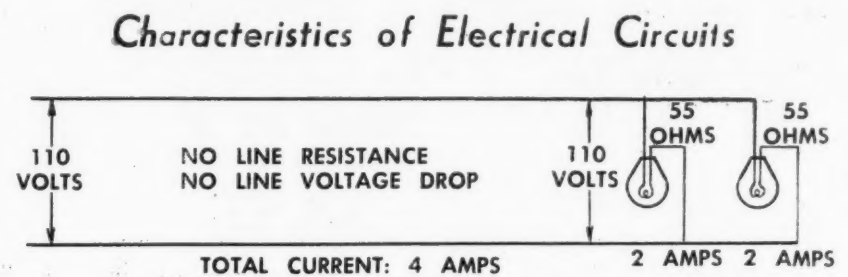


Fig. 2—No voltage drop occurs in this parallel circuit.

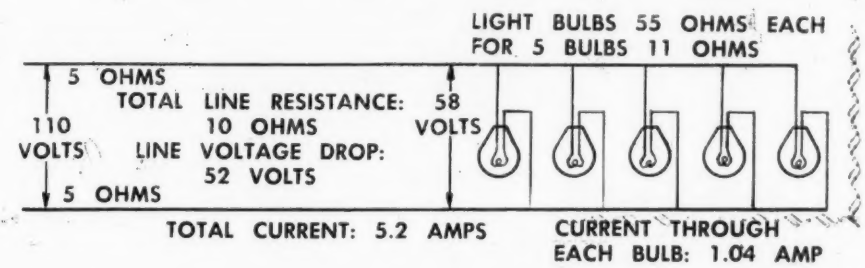


Fig. 3 illustrates what happens when the electrical circuit consists of a combination of series and parallel resistances.

to deliver full rated voltage to the motors or other electrical devices. They cannot work properly on low voltage.

It is true that most motors will start and carry their full loads at as low as 10% under-voltage, but they will not do it efficiently and economically. Moreover many motors in refrigeration work are carrying overloads, and to do this they must have full rated voltage.

In some sections of the country the voltage delivered to the premises is not up to what it should be. Perhaps the generators are overloaded or the primaries themselves

are too small. More likely the transformers are too small to serve as many customers as are connected to them, or the secondaries are too small or too long.

More often low voltage to the motor or other equipment is caused by excessive line voltage in the drops in the circuits in the building itself. The wire sizes may be too small or too long. Additional loads may have been put on them since they were originally installed.

A voltage test at the meter and at the motor itself, while the motor is running, will show if the excessive voltage drop is inside or outside.

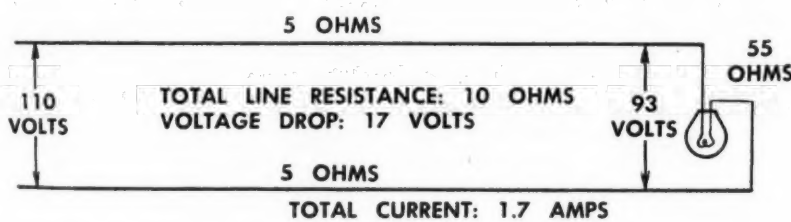


Fig. 1 shows the voltage drop in a series electrical circuit.



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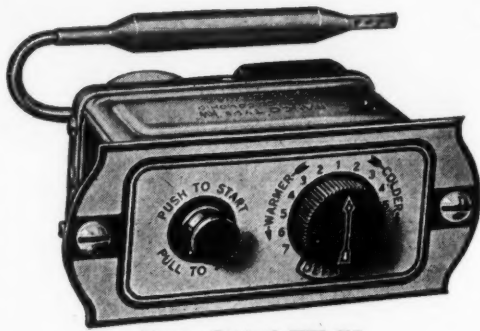
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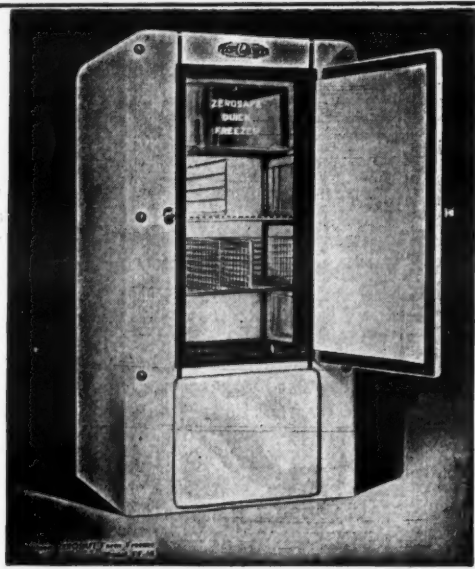
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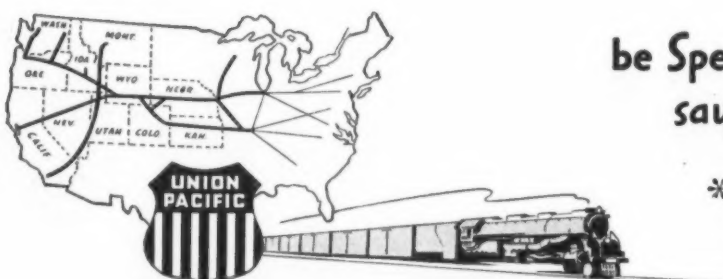
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## Servicing Truck Refrigeration Units

**Editor's Note:** Beginning with this instalment, a detailed description of when and how to perform service operations will be presented on the Trail-Aire reverse cycle truck cooling unit. By means of coded schematic drawings of the complete refrigeration circuit, the various states of the refrigerant will be shown under both cooling and heating cycles, as well as under different conditions of pump-down.

### Instalment No. 16

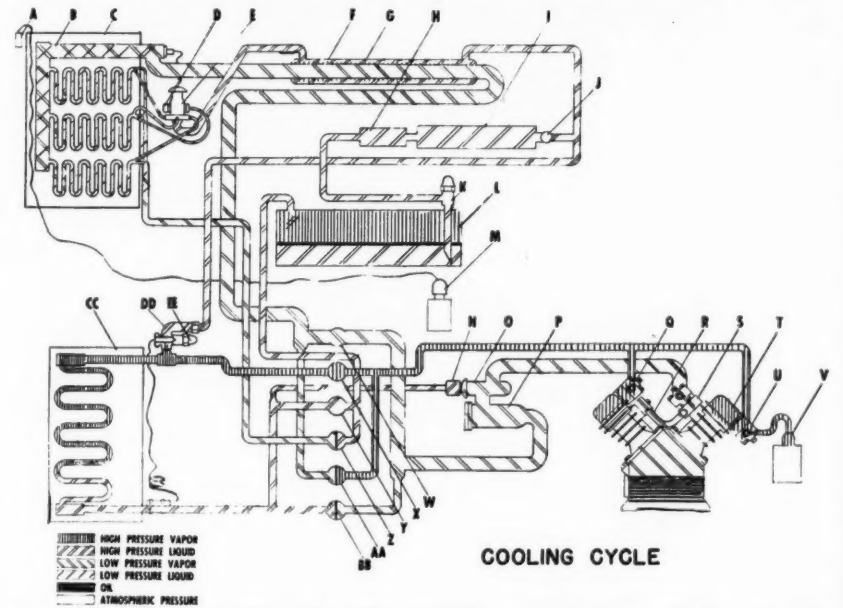


Fig. 21 shows schematically the complete refrigerant system of the Trail-Aire unit, depicting the state of the refrigerant during the cooling cycle in all parts of the system.

Key to drawing: A—thermostat bulb; B—evaporator suction header; C—evaporator coil (upper); D—expansion valve adjusting stem; E—multi-outlet thermostatic expansion valve; F—heat exchanger; G—heat transfer fins; H—liquid line strainer; I—dehydrator; J—liquid indicator; K—receiver service valve; L—receiver tank; M—thermostat temperature control; N—load limiting valve bellows; O—suction load limiting valve; P—suction line strainer; Q—compressor discharge service valve; R—compressor suction manifold; S—compressor suction service valve; T—compressor; U—compressor discharge service valve; V—high pressure cut-out; W—hand valve suction (cooling); X—hand valve discharge (cooling); Y—hand valve liquid return (cooling); Z—hand valve liquid return (heating); AA—hand valve suction (heating); BB—hand valve suction (heating); CC—condenser coil (lower); DD—thermostatic expansion valve; EE—thermostatic expansion valve adjusting stem.

### Cooling Cycle

In Fig. 21 is shown diagrammatically the complete refrigeration system of the reverse cycle Trail-Aire truck cooling unit. It is coded to show the various pressures and states of the refrigerant in the system when the unit operates on the cooling cycle.

To operate the unit on the cooling cycle it is necessary to have the following valves open:

1. Cooling suction hand valve (W).
2. Cooling discharge hand valve (X).
3. Cooling liquid return valve (Y).
4. Compressor discharge service valves (Q) and (U).
5. Compressor suction service valve (S).
6. Receiver service valve (K).

The following valves must be closed on the cooling cycle:

1. Heating liquid return hand valve (Z).
2. Heating discharge hand valve (AA).
3. Heating suction hand valve (BB).

Path of the refrigerant when the unit is on the cooling cycle is as follows. Starting in the suction manifold (R) of the compressor, the refrigerant is in a low pressure vapor state. The low pressure vapor is compressed by the compressor and discharged into the compressor heads (T) where the refrigerant is now in a high pressure vapor state.

This high pressure vapor is forced through the discharge line through the open cooling discharge hand valve (X) into the air-cooled condenser (CC) where the high pressure vapor gives up some of its heat to the cooling medium (air), causing the high pressure vapor to condense into a liquid.

The high pressure liquid is forced through the liquid return line from the bottom of the condenser through the open cooling liquid return hand valve (X). (Note here that there is a tee in the liquid return line for the connection of the line from the bellows of the load limiting valve exerting high pressure on the bellows

(N). On the cooling cycle this valve opens at 30 lbs./sq. in.)

The high pressure liquid is forced through the submerged tube in the receiver through the open receiver service valve (K) through the liquid line. Passing through the liquid line strainer (H), dehydrator (I), and liquid indicator (J), the high pressure liquid then goes to the heat exchanger (F) where the liquid refrigerant gives up some of its heat to the cool vapor returning from the evaporator through the suction line side of the heat exchanger.

Continuing in the liquid line, the high pressure liquid goes from the heat exchanger to the inlet of the multi-outlet thermostatic expansion valve (E).

As it leaves the orifices of the expansion valve (E), the high pressure liquid expands, becoming low pressure liquid, which is distributed through the three-section evaporator coil (C). Here the pressure is reduced by the suction action of the compressor, causing the low pressure liquid to evaporate into low pressure vapor and thus provide the cooling effect.

Low pressure vapor is then drawn from the evaporator coil through the suction line, the heat exchanger, the open cooling suction hand valve (W), suction line strainer (P), load limiting valve (C), and thence to the compressor suction manifold (R), where the low pressure vapor is again ready to be compressed by the compressor, thus completing the cycle.

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## New Laundry Equipment Introduced at Mart



Housewife sits in front of the General Electric automatic washer as it goes through its 45-minute cycle. To the left is the matching clothes dryer.

## G-E Washer Employs New Design Features

The new General Electric automatic washer, making its bow at the Marts, is distinguished by the following points:

It employs the agitator principle in the washing operation, and spins the clothes on a horizontal plane for the rinse and damp dry part of the cycle. Thus it does not employ the design principles often found in some of the other leading makes of automatic washers.

The sealed-in-metal mechanism (motor, gear, reduction device, solenoid, and brake) which drives the machine, is protected by a five-year warranty, and a one-year guarantee covers the entire washer.

While the operation of the G-E washer is automatic, flexibility in the control system has been provided so that the machine can be stopped any place in the cycle and a fresh start made, with more washing added.

The washer consists of an outer cabinet, a vitreous enamel inner tub (which is water proof), the agitator, and the mechanism, this later being mounted on a steel spider and spring arrangement to keep vibration to a minimum.

The housewife, in operating the machine, puts soap into the soap container, selects the desired temperature for the wash water and desired length of washing time, and then turns on the machine.

The tub then fills, a float arrangement giving a "positive fill." The agitator doesn't start operating until the tub is full.

The agitator then soaks and washes the clothes. All water going into the machine is constantly circulated through filter screens which skim off dirt and lint. A drain pump is also working to remove dirty water.

In the eight-minute drying cycle, clothes are spun at high speed in the washer basket, the speed at its peak being 1140 r.p.m.

It was pointed out that in the spinning operation water is thrown

and water heaters. G-E's new automatic washer was shown also.

The cabinet of the 8-cu. ft. refrigerator is of a new, all-one-piece design, a spokesman pointed out. Capacity of the frozen food compartment was given as .9 cu. ft. Another of the features emphasized was the 6 in.-deep meat, fruit, and vegetable trays.

Production of a two-door, two-temperature refrigerator is expected to begin about May, the G-E representative said. This unit is to have a 1.5-cu. ft. frozen food compartment, he stated.

## Frigidaire Has Wide Range of Models

Frigidaire was showing a complete line of household electric refrigerators, in a broad range of prices. While other models may be added, the line shown was complete in the sense of what is now being produced and distributed.

The line starts with the MI-7 at \$199.75. Next model is the DI-7 at \$220.75, the DI-9 at \$277.75. "Cold Wall" models start with the CDM-7 at \$319.75. Also shown was the CDM-7 in an all-porcelain cabinet at \$348.75. The CDM-9 at \$362.75 tops the line.

Two Frigidaire home freezer models were being displayed, the HJ-4 at \$209.75 (4 cu. ft. model), and the HJ-8 (8 cu. ft. model) at \$269.75.

The complete Frigidaire line of electric ranges was shown, as well as the new line of kitchen cabinets which will be available to Frigidaire dealers.

## Admiral Displays 4 Models, Plans Others

Along with the four refrigerator models, radios, and other products it is now manufacturing, Admiral Corp. displayed two deluxe wide-evaporator refrigerators and a 7-cu. ft. upright home freezer which are not yet in production.

Seymour Mintz, advertising and sales promotion manager, said production of the two added refrigerator models probably would get under way the latter part of the year. They are to be turned out in 7 and 9-cu. ft. sizes.

Two "Dual-Temp" refrigerators now being manufactured bore price tags of \$369.95 and \$429.95. Prices shown for the two conventional models in production were \$229.95 and \$269.95.

"Something new" in radios is scheduled to be revealed in March, according to Mr. Mintz.

## Estate Ranges Provide 'Fast-Defrosting' Method

Featuring "Defrost-All," which is described by the company as a new "double-quick" method of thawing frozen foods, a new line of electric ranges headed the appliances shown at the Furniture Mart here by the

Estate-Heatrola Division of Noma Electric Corp.

Four models of Estate home freezers were also shown. These included the 6 cu. ft. Mt. Rainier, the 12 cu. ft. Mt. Everest, the 20 cu. ft. Mt. Wilson, and the 6 cu. ft. Mt. Hood. In addition, Estate displayed a completely redesigned gas range and a new Oil-Heatrola model.

The new Defrost-All, claims the company, permits hard-as-rock frozen foods to be made ready for cooking in a fraction of the time now required, thus avoiding loss of vitamins and flavor because of over-thawing.

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794-6 UNION STREET • BROOKLYN 15, N. Y.

## New 'Compact' 8 Cu.Ft. Model In G-E's Line

General Electric's brand new 8-cu. ft. household refrigerator which occupies the same floor space as its 6-cu. ft. unit and is 2 in. higher made its bow at the winter markets. Priced at \$259.75, it now is being shipped to distributors.

Also being shown to the public for the first time was G-E's 8-cu. ft. chest-type home freezer. Production on this unit is scheduled for February or March, according to a representative.

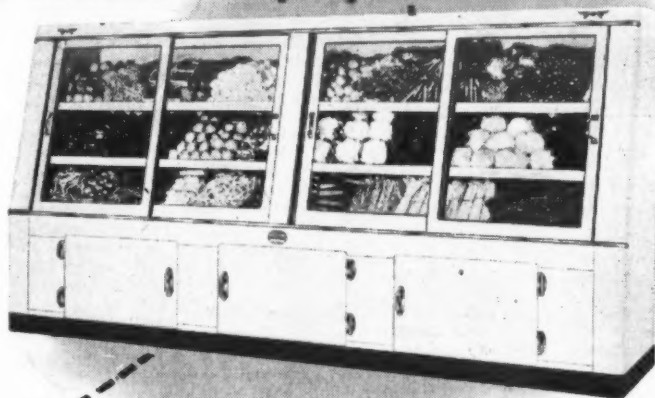
Among the many other products exhibited were one 6-cu. ft. refrigerator, four 7-cu. ft. units, a 4-cu. ft. home freezer, and several ranges

One member of a complete quality line . . . designed to be saleable in volume at a profit.

## VEGETAIRE

Time-tested Self-Serve Produce Display

Sherer's Self-Serve VEGETAIRE offers merchants efficiency and dependability . . . triples display area . . . generous refrigerated storage space. It boosts sales and profits for them.



**SHERER**  
COMMERCIAL REFRIGERATORS

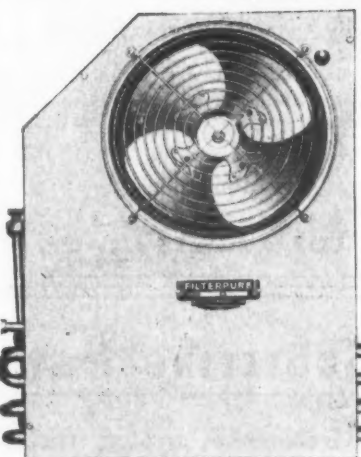
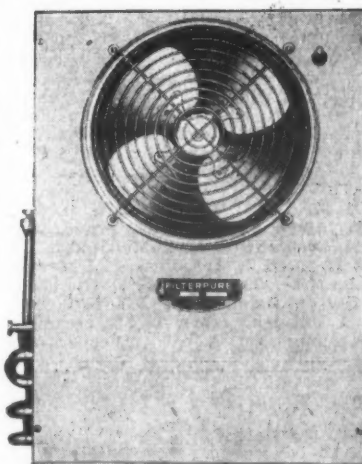
SHERER-SILLET CO., Marshall, Michigan

VEGETAIRES • DAIRY CASES • REACH-IN

REFRIGERATORS • WALK-IN COOLING ROOMS •

MEAT & DELICATESSEN DISPLAY CASES •

**Filterpure**  
FOR DRY BEVERAGE BOXES



**2 MODELS**

-- for installation in extreme end of the fixture  
-- or for installation on center of rear wall

**3 SIZES**

-- to balance 1/4 - 1/3 - 1/2 HP compressor.

Sold by Leading Refrigeration Wholesalers

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HAMMOND, INDIANA



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needs this fully-illustrated easy-to-read Motor Parts Catalog—form MU-40.

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**Wagner Electric Corporation**  
ESTABLISHED 1920  
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ELECTRICAL AND AUTOMOTIVE PRODUCTS

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GE Capacitor Type  
25 available**

Used but in good condition

**A & A MACHINERY CO.**  
1267 FLUSHING AVENUE  
BROOKLYN, N. Y.

**AERO-PASS\* CONDENSER**

with the NIAGARA "OIL-OUT"

increases refrigeration plant capacity; saves power and water.

Patented features: "duo-pass" coil keeps condenser tubes free from scale; "oil-out" constantly cleans oil and dirt from the refrigerant.

**NIAGARA BLOWER COMPANY**  
30 Years of Service in Air Engineering  
AC-1-7 E. 45th St., New York 17, N. Y.  
\*Trade-mark registered



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VALVES AND FITTINGS  
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**NORTHERN INDIANA BRASS CO.**  
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ACCESSORIES**

- Instantaneous Water and Beverage Coolers.
- Oil Separators.
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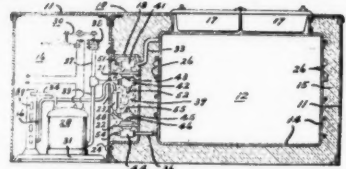
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**PATENTS**

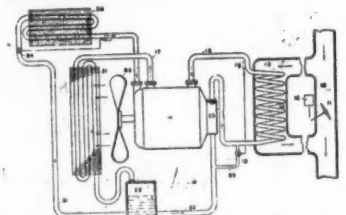
Week of Nov. 19  
(Continued)

2,411,296. **REFRIGERATING APPARATUS.** Sylvester M. Schweller, Dayton, Ohio, assignor to General Motors Corp., Dayton, Ohio, a corporation of Delaware. Application July 30, 1943, Serial No. 496,718. 2 Claims. (Cl. 62-116.)



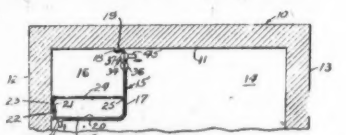
1. A refrigerating apparatus comprising in combination, a cabinet having a chamber therein to be cooled, a closed refrigerating system associated with said apparatus, said refrigerating system including an evaporator fixed within said cabinet for cooling said chamber, a refrigerant liquefying and circulating unit connected by conduits with said evaporator and means for controlling the flow of refrigerant from said unit to said evaporator, means interposed in said conduits for closing off each conduit at two adjacent points and for permitting separation of said unit from said evaporator intermediate said points, said unit being removable from said apparatus when said separation is effected, and said first named means being interposed in one of said conduits between said unit and said last named means and being removable along with said unit from said apparatus.

2,411,347. **REFRIGERANT VAPOR SYSTEM.** William E. Trumpler, Boston, Pa., assignor to Carrier Corp., Syracuse, N. Y., a corporation of Delaware. Application Nov. 27, 1940, Serial No. 367,441. 10 Claims. (Cl. 62-115.)



3. In a system for utilizing refrigerant, means for supplying heated gases, a boiler containing refrigerant, and arranged to utilize said heated gases for vaporizing under relatively high pressure a controlled portion of said refrigerant, an apparatus utilizing another portion of said refrigerant for refrigeration purposes, a prime mover and compressor unit for receiving said refrigerant under high pressure and refrigerant from said apparatus, means for condensing the refrigerant received from said unit, means for returning from the condensing means to the boiler some of the condensed refrigerant to be again vaporized under high pressure, and means for returning from the condenser back to the boiler a surplus of said last mentioned refrigerant.

2,411,376. **REFRIGERANT EVAPORATOR.** Bernard C. Johnson, Mundelein, Ill., assignor to Houdaille-Hershey Corp., Detroit, Mich., a corporation of Michigan. Application March 16, 1944, Serial No. 526,665. 11 Claims. (Cl. 62-126.)

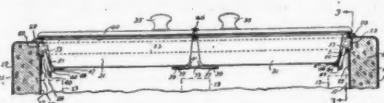


1. In combination, a refrigerator box, an evaporator unit of L-shape and having integral apertured end flanges, and means passing through said apertured end flanges for attaching said evaporator.

2,411,419. **REFRIGERATING APPARATUS.** Alvah V. Frohnage, Grand Rapids, Mich., assignor to Nash-Kelvinator Corp., Detroit, Mich., a corporation of Maryland. Application Jan. 26, 1945, Serial No. 574,779. 4 Claims. (Cl. 160-187.)

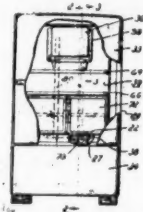
1. A roll-back cover for ice cream cabinets comprising, a pair of cover panels,

hinge means substantially in the plane of the lower surfaces of said panels joining said panels in a relatively movable relation with one edge of each panel adjacently disposed.



cent to one edge of the other panel, handle means on the upper sides of said panels adjacent the hinged joined edges for simultaneously lifting these edges of the panels and causing the two panels to fold together with the outer edges adjacently disposed.

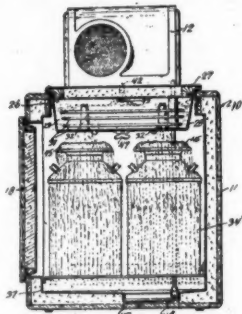
2,411,461. **REFRIGERATING APPARATUS.** Lawrence A. Philipp, Detroit, Mich., assignor to Nash-Kelvinator Corp., Detroit, Mich., a corporation of Maryland. Application Dec. 10, 1942, Serial No. 468,487. 8 Claims. (Cl. 62-89.)



1. Refrigerating apparatus comprising a cabinet having an inner liner and an outer casing, insulation between said liner and casing, said liner forming walls of a food storage compartment, a refrigerant evaporator positioned in said food compartment and being adapted to operate at a relatively low temperature, and a refrigerant evaporator positioned on the exterior surface of said liner and being adapted to operate at a relatively high temperature and above the freezing point of water at least part of the time, said insulation being spaced from said evaporator positioned on said liner and said liner having an opening in a wall thereof communicating with the space between the insulation and liner to establish a communication path between said evaporators to allow for water vapor diffusion in air from the moisture collected on the relatively high temperature evaporator to flow to the relatively low temperature evaporator.

Week of Nov. 26

2,411,833. **REFRIGERATING APPARATUS.** Alexander F. McMahon, Oak Park, Ill., assignor to The Bastian-Blessing Co., Chicago, Ill., a corporation of Illinois. Application July 3, 1943, Serial No. 493,369. 10 Claims. (Cl. 62-141.)



1. A method of storing and utilizing refrigeration within a cabinet for cooling a product which comprises congealing a cooling liquid in a receptacle within the cabinet while maintaining said cabinet at a lowered temperature, then when an uncooled product is inserted within said cabinet spraying a liquid over said congealed liquid and said uncooled product for abstracting heat from said uncooled product, and simultaneously cooling said product by causing the air in said cabinet to circulate by convection, first across the container for the congealed liquid and then over the container for said product.

(To Be Continued)

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Plan your automatic refrigeration installations for a triple advantage: Proved performance, low first cost, low maintenance cost. LIPMAN machines for dependable service in any field of commercial refrigeration are the result of more than a quarter century of manufacturing know-how. Let LIPMAN serve your needs profitably!

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RATES for all other classifications \$5.00 per insertion. Limit 50 words.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other addresses by actual word count.

**POSITIONS WANTED**

**YOUNG EXECUTIVE** desires position as store manager or manufacturer's representative for commercial refrigeration or air conditioning company. Ohio, Indiana, W. Virginia territories preferred. Highly educated. Proven record of successful sales and sales management. A-1 references. BOX 2195, Air Conditioning & Refrigeration News.

**MANUFACTURERS REPRESENTATIVE** contacting Illinois sales and service organizations desires additional lines, condensing units, unit coolers, coils, commercial refrigerators, freezers, etc. Commission only. Interview arranged at manufacturers convenience and location. Proposal, literature, and price lists forward to BOX 2196, Air Conditioning & Refrigeration News.

**POSITIONS AVAILABLE**

**WE ARE** large distributors of commercial refrigeration and air conditioning equipment and require sales manager experienced in either line or both. Offer splendid opportunity. State previous experience and starting salary wanted. KUHR BROTHERS, Savannah, Ga.

**OPPORTUNITY:** LARGE established manufacturer of electric drinking water coolers wishes to contact men of proven ability and if possible product experience, to handle sales in Mid-West and some Eastern territories. Prefer men between ages of 30 and 40 years. BOX 2132, Air Conditioning & Refrigeration News.

**WANTED:** DIRECT factory representative now calling on Pacific coast refrigeration distributors, for nationally advertised quality line of open-type self-service frozen foods cabinets. Excellent opportunity, full cooperation, prompt deliveries. Write full particulars, experience, lines handled, etc., to BOX 2167, Air Conditioning & Refrigeration News.

**WANTED:** DIRECT factory representative now calling on refrigeration distributors in Southern states; for nationally advertised quality line of open-type self-service frozen foods cabinets. Excellent opportunity, full cooperation, prompt deliveries. Write full particulars, experience, lines handled, etc., to BOX 2168, Air Conditioning & Refrigeration News.

**SALES REPRESENTATIVES** and distributors wanted middle western, southern states for automatic temperature alarm. Ability to contact freezer manufacturers, supply jobbers, and dealers. Bona fide inquiries on hand, deliveries prompt. Excellent profit or commission in exclusive territory dependent upon basis you wish to operate. BOX 2179, Air Conditioning & Refrigeration News.

**EQUIPMENT WANTED**

**WANTED—MANUFACTURER** of refrigerant cartridge similar to Waltham System, Inc., of Buffalo. Cartridge triangular in shape, measuring 4 1/4 in. x 4 1/4 in. x 5 1/8 in. long, approximately 10 lbs. filled ready for use. Must contain eutectic solution that, when frozen solidly, becomes highly efficient low cost refrigerant. Filler opening must be on top. BOX 2194, Air Conditioning & Refrigeration News.

**EQUIPMENT FOR SALE**

**SECTIONAL WALK-IN coolers** built to your specifications, Chrome hardware. Oak trim door. Fir front. Seasoned spruce. Metal saddle. Fiberglass insulation. Week delivery. Quantity discount. Buy direct from manufacturer and save. Send us your requirements. COOLER KING MFG. CO. (Wholesale Only), 8795 17 Ave., Brooklyn 14, N. Y.

**IMMEDIATE DELIVERY—New Air Conditioning Equipment.** Weathermakers complete with motor, "Freon" coil, etc. 2 ton to 25 ton. SWSD, DWDI, and Twin Centrifugal Blowers, Propeller Fans, Heating and Cooling Coils, Evaporative Condensers. Self-Contained Air Conditioning Units. CONTROLTEMP EQUIPMENT SALES CO., 236 Butler St., Brooklyn 17, N. Y.

**FOR SALE:** 1,000 new flip covers and frame assemblies for freezers and ice cream cabinets. Two popular sizes. 1/4 to 2 hp. new and remanufactured condensing units, also new aluminum ice cube trays. EDISON COOLING CORP., 310 E. 149th St., Bronx 51, N. Y.

**IMMEDIATE DELIVERY** freezers open and closed glass top, stainless steel top, canopy type, 20-44 cu. ft. Florist Dairy boxes, bottle coolers, double duty display cases. Ice cream cabinets, storage boxes, wood-metal, 4-6 can milk coolers, reach-in refrigerators. Water Fountains. FRIGIDTEMP CORP., 931 Bergen St., Brooklyn 16, N. Y. MA 2-9093.

**FROZEN FOOD cases** (open type) with superstructure, dry beverage coolers, home and farm freezers, ice cream cabinets, reach-in refrigerators. All equipment with and without units. Immediate delivery, attractively priced. Exclusive distributorships available. GENERAL REFRIGERATORS CORP., 678 Broadway, New York (12), ST 9-1222.

**COMPRESSORS AND PARTS** rebuilding—Compressors, float valves, water valves, low pressure controls, evaporators, water cooled condensers, condensing units and many other items replaced from our large stocks, or repaired upon receipt of your defective material. Send for our catalog prices listed. REFRIGERATION MAINTENANCE CORP., 321 E. Grand Ave., Chicago, Ill.

**FLOAT REPLACEMENTS.** For replacing defective high side floats on all household units. Regular charging connection, capillary tube setup, internal strainer and exact mounting plate. Part #2000—Westinghouse (4 hole plate), and #2010 (3 hole plate); Part #2020—Gibson; Part #2030—General Electric (DR-1 & DR-2). Part #2040—For general replacement (undrilled plate). \$6.75 each. SEALED UNIT PARTS CO., 3097 Third Ave., New York 56.

**SEALED CROSLLEY TERMINALS.** Installed from the outside in a few minutes without opening the compressor. Corrects leaky terminals on all Crosley "F-12" units. Set of three \$6.75 (Part No. 1020). Installation tool \$1.65. Immediate delivery. Money-back guarantee. SEALED UNIT PARTS CO., 3097 Third Ave., New York 56, N. Y.

**FRIGIDAIRE METER-MISER Terminals.** Installed from the inside. Fits compressors with bottom-mounted terminals (Part No. 1060). Set of three \$2.85. WESTINGHOUSE TERMINALS. Installed from the inside. (Part No. 1030). Set of three \$2.85. SEALED UNIT PARTS CO., 3097 Third Ave., New York 56, N. Y.

**NORGE CHECK VALVES.** For open-type units. (Part No. 1040). \$2.55 each. SEALED NORGE terminal packing washers. For repairing leaky terminals. Installed from the outside in a few minutes. (Part No. 1050). Three sets (9 washers) \$1.00. SEALED UNIT PARTS CO., 3097 Third Ave., New York 56, N. Y.

**SEALED NORGE terminals.** Complete assembly. Replaces shorted terminals. Installed from inside. (Part No. 1100). Set of three \$2.85. Sealed Crosley terminals. Installed from inside. Part No. 1070 for SO2 models. Part No. 1080 for "F-12" models. Part No. 1090 for "F-21" models. Set of three \$2.85. SEALED UNIT PARTS CO., 3097 Third Ave., New York 56, N. Y.

**UNDERBAR WORKBOARDS,** cocktail stations, dry beverage coolers, and beer dispensers designed for water bath, circulating air, Temptrite tanks and Penfo cooling systems, for immediate delivery, by one of the oldest bar interior equipment manufacturers in the East. SUPREME METAL FABRICATORS, INC., 27 Rodney St., Brooklyn 11, N. Y.

**SECTIONAL WALK-IN coolers** made of plastic plywood 4 in. and 6 in. of Fiberglas insulation. 8 ft. x 8 ft. x 7 ft. high. Write for prices and literature. ZERO REFRIGERATION CO., Saukville, Wis.

**CUSTOM BUILT—10 1/2 cu. ft.—low temperature test cabinet** (to minus 70° F.) 1-hp. two stage "Freon" unit self contained counter-balanced—lift tops. Used in instrument testing short time. BOX 2169, Air Conditioning & Refrigeration News.

**NEW ALL-STEEL sectional walk-in coolers** available for immediate delivery at attractive prices. Write for specifications and quotations. BOX 2188, Air Conditioning & Refrigeration News.

**AIRFLOW CONDENSING units—1/4-hp.** twin-cylinder, 580 r.p.m., 4020 B.T.U. at 20 degrees suction and 90 degrees ambient temperature—with back-pressure control, flywheel and fan-belts. Price, less motor, \$88 in lots of 6 or more, f.o.b. N.Y.C. BOX 2189, Air Conditioning & Refrigeration News.

**FOR SALE—immediate delivery.** A large quantity of new 1/4-hp. and 3/4-hp. units with 1 phase motors. 1/4-hp. units air cooled, 3/4-hp. units water cooled. All units are standard names. The prices are right. Reply to BOX 2192, Air Conditioning & Refrigeration News.

**BARGAIN 50 brand new 12 1/2-cu. ft. farm and home freezers** complete with valves, control and less condensing units. All in original crates at \$207.50 each. Reason for sale, must reduce inventory. Will sell all or part. Write or wire BOX 2193, Air Conditioning & Refrigeration News.

**FRANCHISES WANTED**

**LEADING MIDWESTERN refrigeration wholesaler** desires distributorship of household refrigerator, electrical appliances, oil burner and unit heater. BOX 2191, Air Conditioning & Refrigeration News.

**FRANCHISES AVAILABLE**

**AGENTS WANTED** throughout the United States and Foreign Countries to sell nationally advertised line of condensing units. State territory desired and other lines handled or present connections. Our present employees and agents know of this advertisement. Answers will be held in utmost confidence. BOX 2186, Air Conditioning & Refrigeration News.

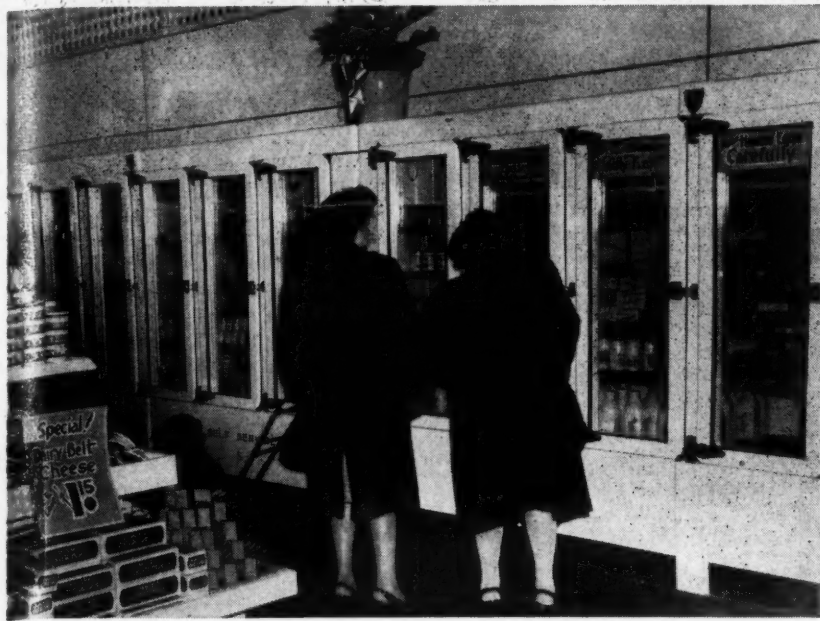
**TO MANUFACTURERS** of home freezers, commercial refrigeration and major home appliances, opportunity to contact distributor with dealer set-up; now operating in Northern Indiana and Southern Michigan territory with sales force and service men. All correspondence confidential. Write at once to BOX 2190, Air Conditioning & Refrigeration News.

**BUSINESS OPPORTUNITIES**

**FOR SALE:** established refrigeration service setup with modern appliance sales store, trade name, 50 x 25 work shop. Insulated, hot water, oil, building with 5 large, light rooms. Ideal location. For further particulars write P. O. BOX 694, Union City, N. J.



# 25 ft. Dairy Case Beats Customer Congestion



Two housewives stop before one of the 10 narrow glass doors in Schenberg's new 25 ft. dairy refrigerated display case. To reduce customer congestion to a minimum the case was designed with hinge-type doors and "traffic items," such as milk and butter, were spaced evenly throughout the cabinet. As a result eight or more patrons can serve themselves at one time.

## New Box Permits Grocer To Double Dairy Display

ST. LOUIS—A huge 25-ft. dairy refrigerator installed in the new Schenberg 20th Century Super Market at 6600 Delmar Ave. here has solved many volume-selling problems for Harry and Sam Schenberg, partners in the firm, which operates three stores in St. Louis.

"We asked for a refrigerator which would allow eight or ten women at a time to serve themselves with dairy products," Sam Schenberg explained. "Large enough to carry twice the stock we have shown in any previous store, and able to hold a consistent temperature of 35° under heavy usage."

"Our experience has been that frequent restocking of dairy refrigerators and piling up of customers at this point is one of the worst sources of congestion in mass food retailing."

The answer to these problems is in the 25-ft. box built by Viking, Kansas City, and installed by St. Louis Butcher Supply Co.'s refrigeration department. It is located to stretch halfway across the rear of the market, with two compressors which provide constantly circulating chilled air set up behind the rear partition where ample ventilation permits economical operation.

Instead of the regular double sliding glass doors, the refrigerator has 10 narrow hinge-type doors, all swinging out to the left. Butter, cheese, lard, buttermilk, milk, cream, whipping cream, mayonnaise, and dressings are spotted behind the glass doors on five levels of mesh steel shelving, spaced to permit maximum circulation of air.

By spacing out "traffic items" in the center and both ends of the big box, eight or more women can serve themselves simultaneously without crowding. This has proven a real advantage on weekend shopping days when the store is crowded to capacity, according to the Schenberg brothers.

## More 'Profitable' Era Seen for F.L. Jacobs Co.

DETROIT—Rex C. Jacobs, president of F. L. Jacobs Co. here, told stockholders at the recent annual meeting that the company "has turned the corner to profitable operation."

He also reported that more than 22,000 Laundralls, the company's automatic home laundry, have been made to date and that 10,000 were scheduled to be turned out in December and 15,000 in January.

Other appliances are being readied for the market, he said. These new products will include an automatic dishwasher, garbage disposal unit, and Infra-Lectric heaters for permanent home installation and an Infra-Lectric combination heater and warming tray.

During the meeting, all directors were re-elected. The board declared the regular quarterly dividend of 62½ cents per share on the company's 5% \$50 par value cumulative convertible preferred stock.

Mr. Jacobs disclosed that November operations followed those of October by showing a profit and that "December shows every sign of a substantial operating profit." Thus, he said, "it seems safe to assume that a definitely profitable trend has been established" for the firm, manufacturer of home appliances and automotive parts with 11 plants in three states.

Expenditures for the appliance division, he declared, "have already established the F. L. Jacobs Co. as a major factor in the appliance industry." He attributed this status to the "phenomenal success" of the Laundrall.

## Aminco Sets Guarantee On New Oil Separator

DETROIT — Although American Injector Co. here has not yet set up a pricing schedule for its all-welded type oil separator introduced as a companion line to its standard model, the company has formulated its guarantee and replacement program on the new item, according to Ed. Kellie, vice president and manager.

The welded oil separators will carry a year's guarantee, during which time they can be replaced out of parts wholesalers' stocks at no cost to the user. After the warranty period, complete replacement units will be obtainable from parts wholesalers at a reasonable price, thus eliminating field servicing.

## "Advanced" Refrigeration Compressor

Give this compressor any ½HP job

Use it on anything from a frozen food cabinet to a room-cooling unit. The "ADVANCED" Refrigeration Compressor will stand up and deliver because it is designed, built and backed by us from the raw materials on.

For specifications and other information, write to address below, Dept. A11.



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Cornwells 0564

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THE COMPRESSOR YOU CAN DEPEND ON



## To Preserve it "PH" it SELF SERVE VEGETABLE CASE



## PUFFER-HUBBARD

ANOTHER CASE OF GOOD REFRIGERATION ENGINEERING

YOUR FOOD SUPPLY  
Keep it fresh and attractive (salable) with P-H food preserving refrigeration.

Write for information

The Puffer-Hubbard line includes most types of refrigerated cabinets as well as Refrigerated Dairy and Vegetable Cases, Dry Beverage Coolers, Walk-in Coolers and Grad-U-Matic equipped Reach-in Cabinets, each bearing the mark of a good case.

All porcelain interiors and exteriors. Equipped with exclusive patented features and many extra refinements making Puffer-Hubbard today's best buy.

## PUFFER-HUBBARD MFG. CO.

\*The Mark of a Good Case  
GRAND HAVEN, MICHIGAN, EST. 1898



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Quality Refrigeration  
PRODUCTS  
for  
Trouble-Free  
Performance

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In all refrigeration and air-conditioning systems, the SUPERIOR line includes the famous Diaphragm Packless Line valves; globe, charging, purging or drain valves; hand expansion valves; pressure cup (wing cap) globe valves; packed line, angle, compressor and cylinder valves; check valves; liquid indicators and sight glasses; quick couplers; gauge manifolds; economizers (heat-exchangers) and manifolds; dehydrators and filters; rapid-chargers (refrigerant transfer systems); charging hose; and SAE flare fittings, including the new STA-TITE flare nuts which cannot creep or work loose.

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NO. 135

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"The South's Largest  
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by EDWIN P. ANDERSON  
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AUDELS REFRIGERATION & AIR CONDITIONING GUIDE answers your questions on basic principles, servicing, operation and repair of household refrigeration—Special Refrigeration Units—Commercial and Industrial Refrigeration—Air Conditioning Systems—Over 1280 Pages, 46 Chapters, 700 Illustrations—Diagrams including data on Freon, Quick Freezing, Lockers and Water Coolers. A new timely book containing practical facts and figures for better service. Easy to understand and Handy Ready Reference.

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## WAA Keeps Priorities For Small Business

WASHINGTON, D. C.—The priority rating by which small businesses are able to purchase government surplus property through the Reconstruction Finance Corp. has not been affected by President Truman's termination of hostilities at the end of 1946, according to the War Assets Administration.

The WAA announcement was based on a letter from U. S. Attorney General Tom C. Clark, who stated in effect that the expiration on Dec. 31, 1946, of the act creating the Smaller War Plants Corp. did not affect the function of purchasing surplus for small business by RFC.

Answering the question of whether "certain functions and duties relating to small business presently exercised by the Department of Commerce and the RFC continue to exist," Atty. Gen. Clark declared:

"Although the smaller War Plants Corp. expired, except for purposes of liquidation, on Dec. 31, 1946, it is my view, after consideration of the applicable statutory provisions, that these functions and duties continue to exist as a matter of law beyond Dec. 31, 1946, and may continue to be performed by the government agencies which now exercise them without the issuance of a further executive order."

## Kelvinator Output--

(Concluded from Page 1, Column 4) year, which forced up unit costs of production, raised prices, and prolonged shortages."

The key to the price "obstacle," he said, is volume production. High prices do not always bring prosperity, Mr. Mason points out.

"When prices are too high, they stifle demand and restrict production," he continued. "When that happens, it brings unemployment and reduces individual income. That weakens all the props under the platform of a secure and prosperous standard of living."

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## Need for More Trained Men Cited to ASRE

DALLAS, Tex.—"What would we do if all the equipment we have been clamoring for were suddenly made available?" J. S. Hopper, assistant to the dean of engineering at Texas A & M College, asked members of the Dallas-Fort Worth section of the American Society of Refrigerating Engineers at that group's December meeting.

Questioning whether present engineering and service departments could cope with the job, Mr. Hopper stressed the need for more and better trained engineers, service men, and construction men.

He declared that many students at Texas A & M believed that a

graduate engineer should serve some time in construction and service work in order to be well grounded as an engineer.

Twenty-six members and visitors attended this second meeting of the new section.

## Ice Cream Equipment--

(Concluded from Page 1, Column 3) behind; storage tanks, 15 to 24 months; weighing and receiving equipment, six to 30 months; straight-line can washers, nine to 32 months; rotary can washers, four to 19 months; homogenizers, 12 to 24 months; separators and clarifiers, four to 13 months; and can conveyors, 10 to 16 months.

All these estimates, points out the dairy association, are based on strike-free operation.

## Weber's Texas-Oklahoma Office Shifts to Dallas

LOS ANGELES—Weber Showcase & Fixture Co., Inc., here has moved its Texas-Oklahoma district headquarters from Houston to Dallas, Tex., the company said.

That headquarters, now located at 6475 Aberdeen St., Dallas, is managed by Myrick E. Glenn, who has been with Weber for one and one-half years. He handles sales of Roll-A-Door ice cream and frosted food cabinets, Roll-A-Door household frozen food cabinets, and low temperature walk-in coolers.

Weber, claiming to be the largest store equipment firm in the world, estimated its 1946 sales at over \$16,000,000.

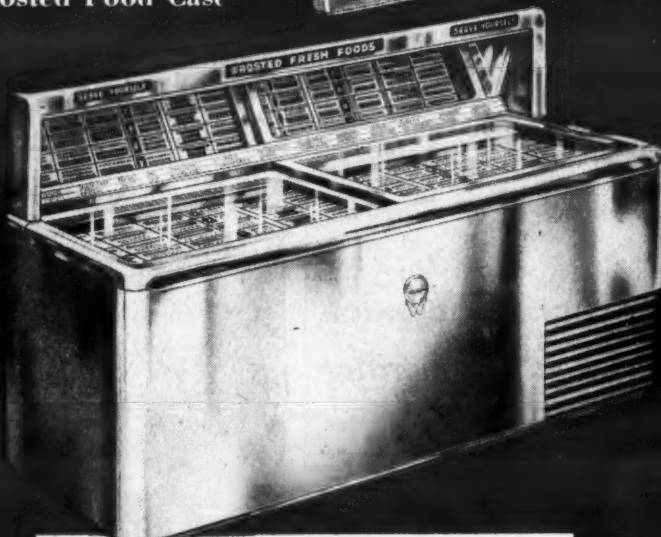
## New Johnston Firm to Distribute Commercial Units In Detroit Area

DETROIT—Formation of a new firm to distribute commercial refrigeration and air conditioning products in the metropolitan area here has been announced by George M. Johnston, who also heads Johnston Refrigeration Construction.

The new company, known as Johnston Refrigeration Sales Co., is distributor for General Electric Co.'s commercial refrigeration and air conditioning equipment, and also handles Victor, Puffer-Hubbard, and other lines. Showrooms are at 1420 Holden, around the corner from the service headquarters.

# WEBER Announces... A NEW LINE OF STAINLESS STEEL REFRIGERATION EQUIPMENT

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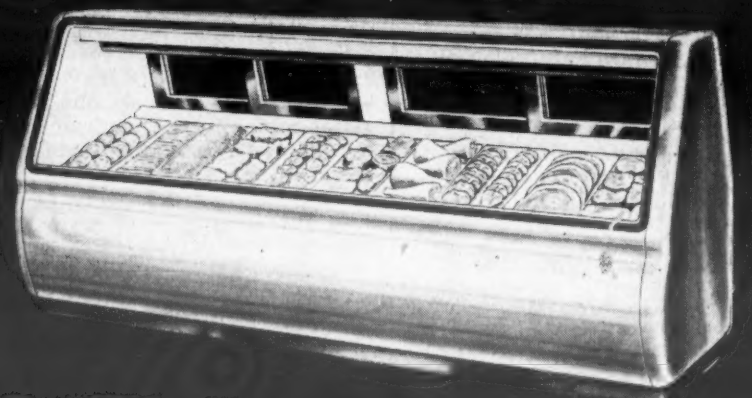
## Smooth-Bright SALES APPEAL IN STAINLESS STEEL

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